DOCUMENT RESUME

ED 102 891 HE 006 241

TITLE	Toward Quality Health Care. The Improvement of Nursing and Nursing Education in Texas. CB Study Paper 24. Final Report of the Nursing Project Council.
INSTITUTION	Texas Coll. and Univ. System, Austin. Coordinating Board.
SPONS AGENCY	National Institutes of Health (DHEW), Bethesda, Md. Div. of Nursing.
PUB DATE	Jan 75
NOTE	189p.
EDRS PRICE	MF-$0.76 HC-$9.51 PLUS POSTAGE
DESCRIPTORS	Curriculum Evaluation; *Higher Education; *Medical Education; *Nurses; *Nursing; *Statewide Planning; Statistical Data
IDENTIFIERS	*Texas

ABSTRACT

This report of the Coordinating Board's Nursing Project Council is the culmination of three years' intensive effort to provide the State of Texas with a plan on which those responsible for helping meet the health care needs can rely in determining where nurses are needed, what their educational preparation should be, and how the nurses can be utilized for maximum efficiency. The study made inquiries of registered nurses, vocational nurses, physicians, nursing students, and others who could be expected to provide information on the subject. Discussed in this report is: a profile of nursing in Texas, utilization of nurses, nursing education (needs and curriculum analysis), regional perspective, cooperative approach to meeting nursing needs, difinition of terms, and a selected bibliography. The appendixes include statistical data on the status of nursing by region and selected copies of survey instruments used for the many surveys incorporated in this study. The intent of this report has been to provide reliable direction for agencies, institutions, and professional organizations interested in improving nursing education and delivery of health care. (Author/PG)

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TOWARD QUALITY HEALTH CARE

The Improvement of Nursing and Nursing Education in Texas

CB Study Paper 24

Final Report
of the
Nursing Project Council

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Presented to
Coordinating Board, Texas College and University System
January 17, 1975

HE 006 241

This study was supported by NIH Training Grant Number 06-D-000032-03
as a Special Project Grant from the Division of Nursing
Public Health Service

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Hereford

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Corpus Christi

Watson W. Wise
Tyler

Sam D. Young, Jr.
El Paso

* Gov. Dolph Briscoe on January 17 appointed Mr. Albritton to fill the unexpired term of Mr. Meaders, who resigned on January 3.

FOREWORD

This final report of the Coordinating Board's Nursing Project Council is the culmination of three years' intensive effort to provide the State of Texas with a plan upon which those responsible for helping meet the health care needs could rely in determining where nurses were needed, what their educational preparation should be, and how the nurses can be utilized for maximum efficiency. The study made inquiries of registered nurses, vocational nurses, physicians, nursing students, and others who could be expected to provide information on the subjects in this study.

I wish to express the appreciation of the Coordinating Board to the members of the Nursing Project Council, under the able leadership of Mrs. John T. Jones, Jr., and the thousands of nurses, students, physicians, and lay individuals who assisted in this work. A special expression of thanks is owing to the Division of Nursing of the Public Health Service, which funded this study, and especially to Miss Lois Federico, Nurse Consultant, and Mrs. Ellen McDonald, Nurse Director, who provided outstanding guidance throughout this work.

From the beginning of this work, the Council members performed in a manner which made them a credit to their several professions and to this study. This Project and the citizens of our State are the beneficiaries of the dedicated participation of individuals from nursing, medicine, administration, and general education. This final report represents the best judgments and conclusions of those individuals.

The Coordinating Board and I are pleased to have been the host agency of this Project. While we realize no single study will solve all the problems in the delivery of health care, we believe this report provides the basis for change and improvement in nursing education and resources in our State.

From the beginning of this work, our intent has been to provide a report which would be reliable for its users and which would provide direction for agencies, institutions, and professional organizations interested in improving nursing education and delivery of health care. We therefore submit this report to those with whom the responsibility for implementation is shared.

Bevington Reed
Commissioner

Coordinating Board

TEXAS COLLEGE AND UNIVERSITY SYSTEM

NURSING PROJECT

November 30, 1974

Mr. Harry Provence, Chairman, and
Members of the Coordinating Board
Box 12788, Capitol Station
Austin, Texas 78711

Dear Mr. Provence:

Having been charged by the Coordinating Board in 1971 with conducting a comprehensive study of nursing education needs and resources in our state, under a Special Project Grant from the Division of Nursing of the Department of Health, Education, and Welfare, the members of the Nursing Project Council have now completed their work and are pleased to submit this final report for your consideration.

On behalf of the Council, I want to express our sincere appreciation for the Board's decision to serve as the host agency for this study and for the support you and Commissioner Bevington Reed have given us throughout the three years of our work.

As the Chairman of the Council, I had the pleasant experience of working with a dedicated group of Texans who never faltered, throughout the long months of this study, in their determination to make the best decisions for the future. Our work was materially assisted by the excellent staff which was provided by the Board.

I am especially appreciative of the contributions to our work of the Review and Evaluation Committee who devoted so many hours of their time in the preparation of this report. It is indeed a rare experience to work with nurses, nurse educators, physicians, and hospital administrators who put the interests of the people of the state foremost in all their deliberations. We, the citizens of our state, are indebted to these fine people for their service.

Sincerely yours,

Winifred Jones

(Mrs. John T. Jones, Jr.)

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PREFACE

This study was initiated by the Coordinating Board in 1971, following a request by the Joint Executive Committee on Nursing Needs and Resources of the Board of Nurse Examiners, the Texas League for Nursing, and the Texas Nurses Association. The Coordinating Board was approved for a Special Project Grant by the Division of Nursing in 1971 and the Commissioner of Higher Education employed a staff to conduct the study and appointed the Nursing Project Council to provide professional guidance and assistance.

Mrs. John T. Jones, Jr., Chairman of the Nursing Project Council, appointed three task forces to examine selected problems in nursing and nursing education. At the beginning of the final year of the study, she appointed the Review and Evaluation Committee from Council members to work closely with the staff in preparation of preliminary recommendations for consideration by the Council.

During the three years of the study, there were six major surveys conducted by the staff as recommended by the task forces. Nearly 20,000 individuals participated in the surveys of this study, including practicing nurses, nursing students, physicians, nursing educators, and lay individuals. We feel that the recommendations in this report reflect the predominance of attitudes of those who participated.

Because of the great volume of data collected, we found it necessary to condense the amount included in this final report. We have included critical data which will be useful for those who will examine nursing needs and associated problems at the local level. The Project collected and analyzed a considerable amount of data and information about the regions in the state but we point out that it was impossible to gather all the information about many variables which influence the demand for nurses, especially at the local level.

The 21 Planning Regions, as identified by the Governor's Office of Planning Coordination, formed the geographic unit for assembling data because of the wide variations of population, availability of nurses and health care facilities and other factors across the state. We have examined the resources in each region, identified the chief problems and made recommendations for solution. These recomendations cover a wide spectrum of subjects, from improvement of faculty to greater availability of off-campus courses to improved communication between educators and the employers of nurses. We believe this final report provides the first step in that effort. It is imperative that successful implementation of the recommendations related to joint activities between education and service involve the full cooperation of both to achieve the common goal of improved health care for the public.

We have limited ourselves to projections to 1980; our projections from 1980 to 1990 were less valid than those to 1980 and the staff therefore recommends that the formulas used here for determining need be applied in 1980 to project specific needs for the following decade.

Our work has also been limited to the basic preparation levels; a comprehensive study of graduate nursing education is needed but our time and resources, plus our priorities, did not allow us to parallel our baccalaureate and below study with one for graduate education.

COORDINATING BOARD NURSING PROJECT
COUNCIL MEMBERS

Mrs. John T. Jones, Jr., Chairman
Houston, Texas

Miss Sue Alder, R.N.*
Chief Consultant
Health Occupations Education
Texas Education Agency
Austin, Texas

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School of Allied Health Sciences
University of Texas Medical
Branch at Galveston

Miss Billye J. Brown, R.N., Dean
The University of Texas
School of Nursing at Austin
Austin, Texas

Leonides Cigarroa, M.D.*
Laredo, Texas

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Lubbock, Texas

Dr. H.J. Friedsam, Dean
School of Community Services
North Texas State University
Denton, Texas

Dr. LaVerne Gallman, Dean
Scott and White Department of
Nursing
Mary Hardin-Baylor College
Belton, Texas

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Institute of Health Sciences
Texas Woman's University
Denton, Texas

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Director of Nursing
The University of Texas M.D.
Anderson Hospital and Tumor
Institute at Houston
Houston, Texas

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Texas Christian University
Fort Worth, Texas

Max E. Johnson, M.D.
San Antonio, Texas

Mrs. Elizabeth Jones, R.N., Dean
The University of Texas
School of Nursing at Houston
Houston, Texas

Mrs. Eunice King, R.N.
Administrator of Patient
Services and Education
Amarillo Hospital District
Amarillo, Texas

Mrs. Clo McGill, R.N.
The University of Texas
School of Nursing at San Antonio
San Antonio, Texas

Mr. William J. Perry, Jr., Director
Technical-Vocational Programs
College of the Mainland
Texas City, Texas

Mr. Boone Powell, Jr., FACHA
President
Hendrick Memorial Hospital
Abilene, Texas

Mrs. Gerry White, R.N.
Former Director
Division of Associate Degree
Nursing
El Centro College
Dallas, Texas

*Deceased

ADMINISTRATIVE ORGANIZATION
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NURSING PROJECT COUNCIL

Review and Evaluation Committee

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Mrs. Elizabeth Jones, R.N.
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Ted Forsythe, M.D.
Mr. Boone Powell, Jr., FACHA
Mrs. Clo McGill, R.N.
Miss Renilda Hilkemeyer, R.N.
Max E. Johnson, M.D.

Nursing Project Staff

Forrest E. Ward, Ph.D., Project Director

Carolyn Gillmore, R.N., M.S.N.,
Associate Director
Charles L. Gouge, B.B.A.,
Systems Analyst

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CHAPTER I

PROCEDURES AND METHODOLOGIES

Following the selection of staff and appointment of the members of the Nursing Project Council, it became necessary to synthesize the objectives of the Project for the purpose of working toward goals which would be achievable and which could be clearly understood by those who would be involved in the implementation of the findings and recommendations of the study.

The Council and staff believed that the final report of the Nursing Project, having been administered by the Coordinating Board, would have greater implications for implementation than previous statewide studies. This belief was based upon the possibility that, if the findings were acceptable, a substantial portion of the recommendations could be implemented through the Board.

The Coordinating Board, having coordination responsibility over all public senior institutions and over the academic programs in community colleges, is in a strategic position to not only implement parts of this final report but to work with the agencies and organizations concerned with nursing to secure implementation of those recommendations which are outside the Board's jurisdiction.

Successful implementation of the findings of this study will require a high level of selfless cooperation from nurses, nurse educators, and employers. Several of the recommendations will require changes which will be difficult for some institutions to make. In some cases, the surveys and other data collected and analyzed by the staff and the Review and Evaluation Committee indicated that, with changes being made, the improvement needed in providing qualified nurses on a statewide basis could be achieved.

As in most studies of this magnitude there were differences of opinion among those responsible for making the fundamental decisions in this report. Not all members of the Council agree with all the recommendations but all that are included in this report have the support of a majority or more of the members.

After carefully examining the overall objectives of the Project, the Council agreed that those listed below were appropriate and upon implementation would provide invaluable guidance and direction for the nursing segment of the health care system for future years. We have annotated each objective for clarification.

A. To project, on the basis of currently discernible trends in health care delivery, the future roles of nursing personnel.

> While future roles of nursing personnel are almost entirely speculative, the Project throughout its work emphasized improved quality. This is achievable, in the opinion of the Council, by increasing the numbers of qualified RN's in work settings and the granting of greater responsibility to the RN in patient care. We have adopted the principles of the expanded role for baccalaureate nurses and believe an improvement in health care will result.

B. To determine the most effective method of utilization of available nursing personnel.

The utilization survey of hospital nurses demonstrated discrepancies between educational preparation in this service sector for registered nurses. We have recommended changes for both education and employers.

C. To determine the probable qualitative and quantitative future nursing needs of the State of Texas.

Through our regional analysis of re-licensure and practitioner data, and through our mobility surveys, we projected the potential supply of registered nurses in all regions to 1980. In those regions where the need appeared to remain high with supply in decline, we have recommended new programs or increased enrollments in existing programs. We have also recommended that some courses, such as geriatrics, be more available. Upon adoption of the optimum ratios of registered nurses to hospital beds, nursing home beds, physicians, and other service settings, we have laid the foundation for increasing numbers of registered nurses to practice in all work areas and, in the judgment of the Council, this will cause a direct improvement in quality of nursing care.

D. To appraise the current supply of nursing personnel and the existing nurse education programs.

Current enrollments in registered nurse programs are at an all-time high in this state and most of the programs are unable to accept all qualified applicants. The vagaries of career selection on the part of young people can cause this high level of interest in nursing to decline. Despite this risk, we have projected enrollments through 1980 as remaining stable.

Our research into the quality of RN programs centered on the difficulty many graduates experience in gaining licensure. This problem has several causes, including iradequate preparation of faculty, especially for ADN programs, and insufficient clinical experience for students.

Under the optimum ratios, the supply of registered nurses will need to increase in most of the regions of the state. The procedures leading to the increases are couched in the recommendations.

E. To develop a plan for nursing education consistent with potential health needs and social developments in the state with maximum utilization of educational resources and technology to improve the effectiveness of the educational process.

This entire report addresses the potential health care needs of the citizens of this state and is flexible so that as new needs and social developments occur, they can be met through the interaction of the educational and service elements of the system. In

a time when more clinical experience is being recommended, for example, we believe new and effective methods must be developed for providing increased experience benefits for nursing students, even if it requires utilization of clinical resources during unpopular shifts, specifically at night.

F. To prepare a guide for general education at all levels emphasizing its role in the development of a nursing manpower pool.

We feel that this study report, in its final form, is an effective guide to general education for several reasons. First, it points out that our existing system does not in all cases produce the kinds of nurses required by employers, and that nurse educators, in many instances, feel that the talents and abilities of their graduates are not utilized and that inadequate recognition is given to the intensive educational preparation of nurses. We have recognized and acknowledged these attitudes in this study and some of our recommendations to "close the gap" between education and service are offensive to some. We have endeavored in this work to seek that which is needed, not that which is popular.

G. To develop a plan to progress from the current status to the goals to be established for appropriate intervals to 1990.

The statistical base of the Project was verified by the staff and we realize that projections must be as scientifically valid as possible. We have no control over unanticipated changes in health care outside the recommendations in this report. If there is acceptance at all levels and by all agencies of the fundamental premise that we must improve quality of health care, and if the state is willing to support the increased costs of providing it, then we believe that our projections will result in adequate numbers of qualified nurses in the state and that the goals will be met.

H. To develop a plan for continuing education to foster each individual's professional development.

Continuing education for nurses of all types is more vital today than ever before. It is second in importance only to the basic preparation leading to state board licensure. We believe continuing education should not be left solely to chance; we believe that it is of greatest urgency that the active nurse, regardless of age, educational preparation, or economic status, must continue her nursing education throughout her career.

We recognize that much good work has been done in continuing education for nurses by many institutions. Most of this effort has been funded through grant funds and when the funds are termi-

nated, so does the effort. This state is without an overall plan for continuing education for nurses, and we in the Nursing Project concluded that we must provide recommendations upon which a statewide, coordinated system of continuing education could be based.

In any study of this nature, the limitations in terms of time and resources make it necessary to establish priorities which will influence the nature of the final product. The Coordinating Board's Nursing Project is no exception. There are many important issues related to both education and practice which the Project would have liked to consider in greater detail. Those familiar with the current problems and issues within the nursing profession will be aware of these gaps. However, two criteria which influenced the approach to the study were: 1) the need to place particular emphasis on areas of nursing in which the Coordinating Board is directly involved and 2) to place particular emphasis on problems which affected the largest proportion of practicing nurses.

As a result of these priorities, the main body of data deals with methods of determining needs for numbers of schools, their location and size, and areas of curriculum in which practitioners suggest greater emphasis. Since the majority of registered nurses work in hospitals, this area of practice was surveyed separately. However, in other surveys, nurses working in all other categories of practice had an opportunity to react to questions relating to responsibilities given them in their places of employment, to discuss their future educational plans, and a variety of other questions which are in the survey instrument in the appendix of this report.

As a result of the priorities of the Nursing Project, the majority of recommendations are necessarily directed toward nursing education. This is not to say that all of the problems of nursing are caused by or can be solved by nursing education. The Council feels strongly that there are equally serious needs in the practice area which need to be addressed to a greater degree than was possible in this Project and only when educators, practitioners and employers accept equal responsibility for cooperative problem solving will any real progress be made.

The decision to concentrate on areas in which the Coordinating Board would have the ability to implement recommendations required a re-evaluation of the original objectives and recognition that achievement in some areas, particularly the identification of effective utilization patterns, would not be accomplished.

The Council members were divided into four task forces with specific assignments to recommend kinds of information that were essential for long-range planning in nursing. Based on input for these task forces, the Project staff developed a series of studies designed to provide the data needed by the Council according to the identified priorities. These were for the purpose of providing specific information, not previously available, concerning nursing in Texas. A brief description of each of these is included and copies of the survey instruments are provided in the appendix. Extensive use was made of existing resources of data, related literature and similar studies conducted in other states.

Regional Analysis of Data

So that statewide data collection and analysis could be kept within manageable proportions, the Project utilized the Governor's 21 Planning Regions as the critical unit of geography and population to be analyzed as an entity. These regions had been established by the Governor's Office, Division of Planning Coordination in 1971, and although the number was later increased to 24, we used the original 21 in order to keep our data consistent throughout the Project.

Statistical data and other information was collected and analyzed for each of the 21 regions. This data included population characteristics, aging indexes, availability of hospitals and nursing homes, locations of LVN and RN educational programs, numbers of nurses working in various settings in each county, and various nurse/population ratios. This information was recorded on a series of maps and charts. As additional information from other surveys was completed, it was incorporated into the regional profile if appropriate. This method was particularly helpful in comparing the regions and determining degree of need in specific job settings.

Nurse Licensure Data

The Nursing Project acquired re-licensure cards from the Board of Nurse Examiners and from these we computerized statistical data on the number of RN's in each county, their activity status, age, educational preparation, and area of employment.

The Board of Vocational Nurse Examiners also provided licensure cards to the Project for 1970-71, 1971-72, and 1972-73. Information, similar to that for RN's, was provided concerning the LVN's in Texas.

Student Geographic Mobility Survey

In order to plan for the number and locations of professional nursing programs needed in the future, information was needed about the students themselves. A survey was designed to answer questions concerning geographic mobility patterns exhibited by students in choosing a school and choosing a job location following graduation. Such information was necessary to determine the recruitment areas of various types of schools as well as the area in which the graduates of the school preferred to work. In May, 1972, a questionnaire was administered to over 6,300 students in 44 professional nursing programs in Texas. In April, 1973, a similar questionnaire was administered to 3,556 students who had entered professional programs since the first survey was administered.

Hospital Utilization Survey

The demands placed upon a nurse as a result of job requirements have vital implications for the educational preparation of all nurses. In conducting a survey of utilization practices, the Project was concerned with two aspects of the discrepancy between education and practice; 1) what are nurses expected to do that their education has not prepared them for? and 2) what skills and abilities does the educational process develop but which the graduate is seldom able to utilize?

Because approximately 64 percent of active nurses are employed in the hospital setting, this area was chosen for survey purposes. A 10 percent sample of short-term, general hospitals in Texas was selected which was representative of all regions and various categories of numbers of beds per institution. Out of 56 hospitals contacted, 42 responded. The participants included RN's and LVN's who had been licensed five years or less. A total of 1,882 questionnaires were distributed and 956 responses were received.

RN and LVN Practitioner Surveys

In order to obtain mobility and utilization information from a cross-section of nurses, a survey was sent to a sample of 10 percent of registered nurses in active practice in the state. Analysis of the sample indicated that it was representative of the planning regions as well as the various areas of nursing practice (public health, nursing homes, hospitals, offices, other). A total of 2,591 questionnaires were mailed and 1,183 responses received. A similar survey was distributed to LVN practitioners using the same sampling technique. A total of 2,934 questionnaires were mailed and 923 responses were returned to the staff.

Physician Opinion Survey

A survey of physicians was conducted to determine utilization practices in the office setting as well as to obtain information concerning the attitudes of physicians toward current trends in nursing education. A sample of 10 percent of non-federal physicians was chosen. The total number of questionnaires mailed was 1,500 and the number returned was 430.

Continuing Education Offerings

A survey of professional nursing programs, public health agencies and private health agencies was conducted to determine the extent of continuing education for nurses available in the state. Out of 109 questionnaires mailed 80 responses were received.

Curriculum Objectives Study*

The need for a study of curriculum objectives resulted from several specific situations which are of concern to the nursing profession and the public. First, the existence of three types of educational programs, all culminating in the title "RN", has produced extensive controversy as to the differences in the abilities of the graduates and the ways in which they should be utilized. While these differences are usually described in broad terms, no one seems able to explain how much or what specific content is common to the various programs. This presents problems to the individual who wishes to seek a higher level of educational preparation. The end result is usually a loss of credits or a loss of time to the student. Secondly, because of the increasing mobility of our population, a high percentage of students attend more than one institution before obtaining a degree. If our educational system is going to meet the needs of the public it will be necessary to design nursing programs whose courses can transfer with minimum difficulty.

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* Curriculum objectives are the elements of a course or curriculum which students are expected to learn and to apply in practice.

In order to identify the common elements of various programs, the Nursing Project designed a study of the behavioral objectives developed by each program. All participating programs coded their objectives, following a format prepared by the Project staff. A sample of this information was analyzed by computer and verified by the staff to determine how many and what type of objectives were common to the various types of programs.

Student Opinion of Curriculum

As a supplement to the Curriculum Objectives Study, 25 percent of the senior nursing students in all professional programs were surveyed to determine opinions on the effectiveness of the curriculum as a whole, teaching methods used, usefulness of objectives and suggestions for improvements. A total of 857 questionnaires was distributed and 580 received from those who participated.

Procedures for the Application of Survey Results

As data began to accumulate, a six-member Review and Evaluation Committee was appointed by the Chairman for purposes of working with the available information and preparing preliminary drafts of information to be considered by the Council. Over a period of nine months this committee held seven two-day meetings to review material compiled by the staff. Following presentation of their findings to the Council on June 29, 1974, necessary revisions were completed and the final recommendations were submitted for approval by the Council on August 9, 1974.

From the beginning of the Nursing Project in 1971, both the Council and the staff have been committed to planning for the future nursing needs of Texas, recognizing that consideration must be given to the effect of current trends on health care delivery. Although we cannot accurately predict all the changes that are going to affect the health industry, some trends are apparent and can be used to project needs in certain areas.

In evaluating the area of supply and demand for nursing services in Texas, the Nursing Project has looked at each region of the state in light of its particular characteristics and needs. In order to do this, information was collected on a county-by-county basis and covered many variables including current population, population projections, size of age groups, numbers and sizes of hospitals, number of RN's and LVN's working in specific areas, educational preparation of nursing personnel, and locations and types of nursing schools.

So that the educators and health care providers in the state could work toward ever-improving quality of nursing personnel, the Nursing Project developed a series of optimum ratios of registered nurses to various elements in the delivery of nursing services. The process followed in developing these ratios is described below.

Procedures and Rationale for the Optimum Ratios

The process for determining need for registered nurses was one to which members of the Review and Evaluation Committee devoted a considerable amount

of thought and effort. Following extensive discussion of possible approaches to this problem the decision was made to use ratios of nurses to a series of variables as the basis for projecting future need for professional nurses. This decision was made with the knowledge that when planning on a statewide basis, it is impossible to collect the detailed data which would provide the most accurate estimate of need at the local level. For example, individual hospitals cannot rely solely on RN's to beds to determine their staffing needs. They must consider the types of health services offered, the conditions of their patients, and the financial factors affecting the number of people whom they can employ in various categories. In spite of the limitations of this approach, the ultimate inclusion of a large number of variables in the determination of need makes it far more reliable than a simple RN to population ratio.

The members of the Review and Evaluation Committee examined the current ratios of nurses to population, to hospital beds, to school children and to physicians. Then each drew up a suggested series of ratios which, he felt, would provide an improved level of health care and yet be realistic in terms of budgetary and staffing requirements. When these independent evaluations were compared, they revealed general agreement concerning ratios. From these a single set of preliminary ratios was adopted. Members of the committee then discussed the proposed ratios with providers of health care in their own communities to determine the overall level of agreement with the committee.

Following a discussion of the results of this action, revisions were made and a final set of ratios for projecting future nursing needs was adopted. While the adopted ratios reflect the number of nurses needed to provide a more acceptable quality of nursing care than now exists, they have been judged to be realistic in terms of budgetary limitations by a group of experienced health care providers, including physicians, directors of nursing service, hospital administrators and nursing educators. The ratios and rationale are given below.

RATIOS ADOPTED TO DETERMINE PROJECTED DEMAND FOR RN'S*

	Unit of Comparison	1971-72 Ratios of RN's to Each Variable	R & E Committee's Optimum Ratios
Hospitals:	beds		
6 - 24 beds		1:4.00	1:3
25 - 49 beds		1:5.30	1:3
50 - 99 beds		1:5.30	1:3
100 - 299 beds		1:3.30	1:2
300 - 499 beds		1:2.77	1:2
500 + beds		1:2.77	1:2
Nursing Homes	beds	1:47.3	1:15
School Nurses	students	1:1,815	1:1,200
Office Nurses	physicians	1:6.00	1:5
Public Health	population	1:11,531	1:5,000
Other	population	1:6,250	1:6250

*Sources for these data are in the Selected Bibliography at numbers 9, 18, 44, 52, 54, 55 and 56.

In determining staffing for hospitals and nursing homes, the stated ratios reflect the numbers of nurses needed for 24 hours or three shifts. For example, in a 30-bed hospital, at a ratio of 1:3, 10 RN's would be needed to staff the hospital at an optimum rate for a 24-hour period. This figure includes personnel to provide for adequate relief coverage. The underlying assumption in the ratio for larger hospitals is that as the size of the hospital increases, the complexity of care and supporting services increases, requiring more nurses for the same number of patients. An example of this would be a hospital with RN's employed in areas other than patient divisions such as rehabilitation facilities, irradiation therapy departments, nurse epidemiologists, inservice education or renal dialysis services.

A second assumption of the committee was that by increasing the number of registered nurses per bed it would be possible to reduce the number of non-professional nursing employees per bed. This ratio is intended to reflect a change in the quality of personnel providing patient care and not simply to increase the total quantity of persons engaged in this activity. Therefore, the adoption of this particular series of ratios has implications for all types of nursing educational programs as well as patient care institutions.

The most drastic recommendation in the series of ratios came in the area of nursing home staffing. It was the opinion of the committee that geriatric patients, by virtue of their frequently complex health care problems, require the care of registered nurses. Although the field of geriatrics is not presently a popular one among the majority of registered nurses, it is an area which must be improved if adequate care is going to be made available to the elderly segment of the population in Texas.

Ratios were adjusted for school nurses, public health nurses, and office nurses to provide for an improved level of care. Office nurses will be discussed in greater detail in connection with the survey of physician's opinions on nursing functions in the office and educational preparation of nurses.

The "Other" category in the series of ratios was included as a means of allowing for new and expanding roles for nursing which are becoming more frequent. This category also includes those who are practicing private duty nursing. At the present time there is one private duty RN for every 6,250 population. However, over the past few years the number of nurses doing private duty has steadily decreased. With the current trend toward intensive care units for persons in need of specialized care, it appears that the number of private duty practitioners will continue to decrease. The number of nurses with specialized preparation as nurse practitioners in various clinical specialties is increasing.

Several nurses have established independent practices and the role of the nurse in such health care delivery systems as Health Maintenance Organizations has the potential for development into an area of expanded practice. The Committee believed that these trends have an offsetting effect and that by providing one professional nurse in the expanded role for each 6,250 persons as the ratio, the needs in these special settings could be met.

In order to determine the needs for registered nurses in each region, the ratios were applied to each category of nursing employment and the total number of nurses needed was computed. This figure was then converted to an RN/population ratio and applied to the projected population for that region for 1980 and 1990. Although there is no totally accurate way to predict need, this method is designed to reflect the level of health care which the particular region is able or willing to support. Since the application of ratios is applied to projected populations there is a built-in adjustment for increasing numbers of hospital beds and nursing positions in other settings.

The following example shows how the application of the ratio can result in different nursing requirements for two regions which have similar numbers of hospital beds but different sizes of health care facilities.

AN EXAMPLE OF OPTIMUM STAFFING REQUIREMENTS FOR A REGION AS INFLUENCED BY THE HOSPITAL BED-SIZE DISTRIBUTION

Bed-Size Classification	Number of Beds by Bed-Size Category REGION A	REGION B
6 - 24 beds	744	0
25 - 49 beds	760	54
50 - 99 beds	172	104
100 - 299 beds	324	206
300 - 499 beds	0	620
500 + beds	0	1,016
	2,000	2,000
	Number of RN's Required to Staff	
6 - 24 beds	248	0
25 - 49 beds	253	18
50 - 99 beds	57	35
100 - 299 beds	162	103
300 - 499 beds	0	310
500 + beds	0	508
	720	974

In any study of statewide resources and projected goals there must be a clear distinction between "need" and "demand". In this Project "need" is defined as the number of nurses required to provide a desired level of health care which is considered economically feasible. "Demand" is the number of nurses which providers of health care are willing or able to employ to provide a certain level of care. Ideally the two terms should be interchangeable but this is seldom the case.

In this study, the accuracy of the projections of need for nurses is dependent upon the willingness of health care providers to work toward an improved level of nursing care by seeking to have a greater proportion of direct patient care provided by registered nurses.

If such a goal is not adopted by providers of health care, the projected needs can be reduced considerably. For example, the 1971-72 ratio of RN's to nursing home beds was 1:47 and the desired level adopted by the Council is 1:15. If such a goal is adopted by nursing homes the state will need three times the present number of RN's working in that setting. If nursing homes are unable or unwilling to employ registered nurses to reach such a goal there would be no reason for the state to prepare three times the present number of nurses in the field of geriatrics.

Projection of Supply

Based on the Student Mobility Survey and the RN Practitioner Survey, the Project was able to estimate the number of new graduates who would remain in each region, the number who would move to other regions, and the approximate number who would remain in active practice depending on the type of educational program from which they graduated. By multiplying the size of the graduating class of each type of program in the region by the number of years until 1980 and applying the formula as illustrated in the chart below, it was possible to determine the probable number of new nurses which would be available in the region. This number, added to the number of nurses already active, minus a per-

REGION A
PROJECTED RN SUPPLY PATTERN, 1980

	Diploma	Associate Degree	Baccalaureate
Local Graduates*	464	804	1,782
x			
Regional Retention Rate**	.875	.869	(.509) (.560)
=			
Local Graduates Retained	406	699	935
+			
Inflow	32	63	166
=			
Total New Graduates	438	762	1,101
x			
Activity Rate	.97	.97	.94
=			
Total Projected Additional Active RN's by 1980	425	+ 739	+ 1,035 = 2,199

*The projected number of local graduates is based on a nine-year period, from 1972-1980, inclusive.

**Retention rates are for each individual nursing program within the region.

centage who could be expected to become inactive due to retirement produced the projected supply by 1980. This figure was then compared to the predicted number needed to determine how well the region could be expected to meet its needs. This process is demonstrated in the chart presented below:

REGION A
PROJECTED DEMAND VS. PROJECTED SUPPLY BY DIFFERENT DEMAND CRITERIA LEVELS
(FTE)

	RN's/ 100,000 Pop. Conversion	Number of RN's Required by 1980		Present Number of Active RN's	=	Additional RN's Required	-	Age Attrition	=	Total Additional RN's Required by 1980	Projected RN Supply By 1980	Surplus (Deficit)
Status Quo	208	2,554		2,402		152		549		701	2,199	1,498
Optimum Level	348	4,273		2,402		1,871		549		2,420	2,199	(221)
		1980 Population				1,228,000						
		1990 Population				1,316,400						

With the current rapid rate of change in society, even a relatively short six-year projection may need to be re-evaluated at intervals in light of emerging trends. The projections of supply and demand presented in the regional data section of the report should be considered as the basic framework for planning to meet local or regional needs. Local health care providers have access to information about health needs in the area that was not available to the Project. Such information may indicate a somewhat greater or lesser need than that identified in this study. However, for statewide planning purposes, the approach described here appears to be a reliable way of determining the needs of Texas to improve its current level of nursing care.

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TEXAS PLANNING REGIONS

September 1971

CHAPTER II

A PROFILE OF NURSING IN TEXAS

Describing the current status of nursing in Texas by use of statewide statistics can be deceptive because of the inability of the statewide approach to account for the wide variations in several characteristics from one region to another. Although the staff and the Council of the Nursing Project agreed that the primary unit of analysis throughout the study should be the region, statewide statistics are useful as a basis of general comparison with other states.

The purpose of this chapter is to present an overview of Texas nursing statistics along with some additional information about the state itself which affects the preparation of nurses and the practice of nursing within its boundaries.

Texas is a large state, having a maximum length of 801 miles and maximum width of 773 miles. The state has a great range of geographic and climate conditions, varying from the hilly piney woods eastern portion to flat coastal plains on the south to the arid great plains area of West Texas. The population of the state is 80 percent urban and 20 percent rural and most of the urban population is east of the 100th meridian, a north-south line forming the eastern boundary of the Texas Panhandle.

The three principal ethnic groups in the Texas population are Anglo-American, Blacks, and Mexican-Americans. The Anglos are throughout the state and are in the majority in most regions. The Mexican-Americans comprise 40 percent or more of the population in all the counties bordering on Mexico, and in all the planning regions adjacent to the Mexican border. The Blacks comprise 25 percent or more of the population in at least 25 counties in East Texas. Most all of these counties have low income levels and health care facilities are inadequate.

East Texas (Regions 5, 6, 14) is hilly, heavily wooded, has numerous lakes and recreational areas and has few large towns but many small farming communities.

The upper Gulf Coast area (Regions 15, 16, 17) includes two large industrial areas, Houston and the Beaumont-Orange-Port Arthur complex. Much of the surrounding area is farmland and flat coastal plains.

The southern portion of the state (Regions 19, 20, 21) has the metropolitan area of Corpus Christi, large expanses of sparsely populated ranchland and the semi-tropical "Valley". In the southernmost tip a large proportion of the population is Mexican-American and many migrant workers come from Mexico during crop harvests.

The central strip of the state (Regions 4, 11, 12) is one of the most densely populated segments of Texas and is projected to have a considerable population increase over the next two decades. Region 18 is heavily populated in the eastern portion which contains the metropolitan area of San Antonio. However, the western and southern areas are sparsely populated. A large proportion of the population is Mexican-American. The climate is often hot and dry.

The western part of the state (Regions 1, 2, 3, 7, 8, 9, 10) also has large expanses of sparsely populated territory. The climate is relatively dry. Much of the rural area is devoted to ranchland and towns are often small and far apart. This is particularly true in Region 8 which is primarily mountainous. The major West Texas cities of Amarillo, Lubbock, Abilene, El Paso, San Angelo, Midland, and Odessa are widely scattered and range in population from 59,000 in Midland to 322,000 in El Paso.

RN and LVN Supply

For the 1971-72 licensure year, the total number of professional nurses[1] registered in Texas was 49,213. This total included nurses living and working in other states who maintain a Texas license, and nurses who are temporarily inactive or permanently retired. Of the total number registered in the state, only 25,868 indicated they were active in nursing in Texas.

In addition to the licensed professional nurses practicing in the state, there is an increasing number of foreign educated nurses who have migrated to Texas but have not been successful in meeting licensure requirements. There are no accurate data on the number of these nurses working in this state but the number applying for the licensing examination increased from 61 in July of 1970 to 568 in October of 1972. The issue of unlicensed foreign nurses and the quality of health care will be discussed in Chapter III.

National data indicate that for the entire United States in 1972, there were 380 active RN's per 100,000 population and 390 in 1973. By comparison, Texas was shown to have 240 (4:12).[2] However, according to the Nursing Project's data, the 1971-72 ratio was only 214. Among the states the ratio ranges from a low of 190 in Arkansas to highs of 572 in New Hampshire, 579 in Connecticut, 612 in Vermont, and 673 in the District of Columbia. Although figures such as these make it appear that Texas has a critical shortage, it is premature to draw such conclusions without first looking at the circumstances contributing to these ratios and the factors that make the situation in Texas somewhat different. The population density along the east coast makes the existence of large medical centers and specialty health services much more feasible than would be the case in sparsely populated areas. In the District of Columbia and the surrounding areas, military hospitals and federal health agencies employ unusually large numbers of nurses which partially accounts for the high ratio in this area.

Among the various regions in Texas the ratio of full-time equivalent RN's to population varies considerably from a high of 255 in Region 16 to a low of 101 in Region 19. However, evaluation of the need for professional nurses in a particular region must take into consideration other types of health care personnel available. Texas has 629 general hospitals of which approximately 50 percent are less than 50 beds (35:29). Many of these smaller hospitals are in small communities where recruitment of RN's is difficult and a large proportion of nursing care in the smaller hospitals is provided by licensed vocational nurses. In regions where the RN/population ratio is highest, the LVN/popu-

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[1] Professional nurse, as used in this report, refers to a graduate of a diploma, associate degree, or baccalaureate program in nursing.

[2] This citation form will be followed throughout this report. The first digit(s) refers to the bibliographic listing and the second to page number.

lation ratio is usually lower. In regions where the RN/population ratio is low, the ratio of LVN's is higher. On a statewide basis, however, the RN/LVN ratio is approximately 1:1. This ratio is similar to other southern states but for the nation as a whole there are usually considerably more RN's than LVN's in active practice.

In 1970, the number of nursing personnel per 100 hospital patients for all the states ranged from 88 in New Jersey to 127 in Alaska. However, the majority ranged from 92 to 102 with Texas having 95.3 (4:27). States with high RN/population ratios appear to have relatively low numbers of personnel per 100 hospital patients. For example, Massachusetts, with an RN/population ratio of 649 has only 97.9 nursing personnel per 100 patients. However, of those 97.9, 45.9 are RN's. In Texas only 16.4 out of every 95.3 nursing personnel are RN's. Since the 1963 Surgeon General's Consultant Group on Nursing recommended that at least 50 percent of direct patient care in hospitals be provided by RN's, these facts point up a critical issue where Texas is concerned (44:23).

If one of the objectives of the state is to increase the proportion of care being given by registered nurses, some changes must occur. Since the state appears to be producing similar numbers of total nursing personnel as other states, the problem is not to produce more of all kinds but more professional and fewer vocational nurses.

With the recent expansion of professional nursing programs in the community colleges across the state, the problems of access and cost have decreased considerably for many individuals who would have previously entered vocational nursing programs.

Since much of the nursing care in Texas is given in small hospitals in somewhat rural areas where registered nurses seldom choose to practice, the LVN remains an essential member of the nursing team. However, with the increase in numbers of professional programs and the large numbers of applicants to those programs, Texas should no longer find it necessary to rely to such a great extent on vocational nurses to provide the majority of direct patient care.

Nursing Education

The configuration of education programs for RN's in the state has changed considerably over the past seven years. The total number of programs has increased from 35 in 1966 to 43 in the fall of 1973. Because of the extended campuses operated by some of the state universities, the total number of campuses offering professional nursing programs is actually closer to 50. The most obvious change has come in the numbers of diploma and associate degree programs.

Two state universities, Texas Woman's University and The University of Texas, offer master's and doctoral degrees in nursing. The University of Texas is offering nursing courses at the graduate level on the Galveston, Austin and San Antonio campuses, and Texas Woman's University offers graduate courses on its campuses in Denton, Dallas, and Houston.

The changes in numbers of nursing education programs in the state, by type of program, are shown here for the period 1966 through 1973:

NUMBER OF PROFESSIONAL NURSING PROGRAMS
IN TEXAS, 1966-73

	1966	1968	1969	1970	1971	1972	1973
Baccalaureate	7	9	10	10	11	12	12
Associate Degree	5	18	20	20	20	23	24
Diploma	23	19	14	14	10	10	7
TOTAL	35	46	48	44	41	45	43

For the two-year period 1970-71 and 1971-72 there were 167 master's degrees in nursing conferred by the two programs. This number should increase with recent expansion of graduate campuses.

Total enrollment in professional nursing programs preparing beginning practitioners in Texas was 11,579 in the fall of 1973. Enrollments increased at a rapid rate during the period from 1966 to 1972 and appear to be maintaining the trend. Historical enrollments since 1966 are shown here:

ENROLLMENTS IN PROFESSIONAL NURSING PROGRAMS, 1966-1973

	1966	1968	1969	1970	1971	1972	1973
Baccalaureate	1,472	2,878	3,097	3,408	4,098	5,674	6,947
Associate Degree	306	1,313	1,665	2,126	2,668	3,275	3,645
Diploma	1,413	1,845	1,509	1,309	994	1,124	987
TOTAL	3,191	6,036	6,271	6,843	7,760	10,073	11,579

The total number of graduates of professional nursing programs more than doubled over the past six years. A continuation of this rate should result in a rapid increase in the RN/population ratio over the next few years since the rate of population growth is much less. Graduations since 1966 were:

GRADUATIONS FROM PROFESSIONAL NURSING PROGRAMS, 1966-1973

	1966	1968	1969	1970	1971	1972	1973
Baccalaureate	240	324	390	453	471	597	738
Associate Degree	40	86	307	511	608	859	1,006
Diploma	434	513	500	425	365	348	412
TOTAL	714	923	1,197	1,389	1,444	1,804	2,156

The impact of the sudden increase in enrollment over the past three years should soon be apparent in the employment sector, particularly in the metropolitan areas. Although employers can identify problems of shortage of professional nurses in these areas now, it is expected that over the next five years the problem will decrease. If the schools are going to be producing adequate numbers of nurses within the next few years, there is a potential danger of creating an oversupply if additional programs are started to meet the shortages of today.

In 1972-73, 132 vocational nursing programs were in operation in the state with a total enrollment of 4,906. Of these, 71 were hospital operated, 28 were located in community colleges, 27 in public schools, and six in other job settings. There were 2,672 new vocational nurses licensed in the year 1972-73.

Characteristics of Practicing Nurses

The following series of graphs gives the most recent information available on professional and vocational nurses in active practice in Texas. In cooperation with the Board of Nurse Examiners and the Board of Vocational Nurse Examiners, the statistical information was obtained from license renewal cards.

Employment Status

Out of the total number of RN's registered in Texas in 1971-72, only 52.57 percent (25,868) were active in the profession in the state of Texas. Of the total number of active nurses, 78.7 percent (20,361) were employed full time in Texas. Of the total number of LVN's living in Texas, 63.13 percent were active. Of the total number of active LVN's, 85.56 percent are employed full time. This condition of a high rate of inactivity is characteristic of the profession primarily due to the fact that the majority of inactive nurses are women who find it necessary to temporarily discontinue full-time employment while they raise their families. Efforts to reduce the size of the inactive pool of nurses have met with little success, and at the present time, although there seems to be a slight trend toward remaining active for longer periods, there is no indication that the situation is likely to change to any significant degree. The data given in the figure shown below reflect the various activity levels of active RN's:

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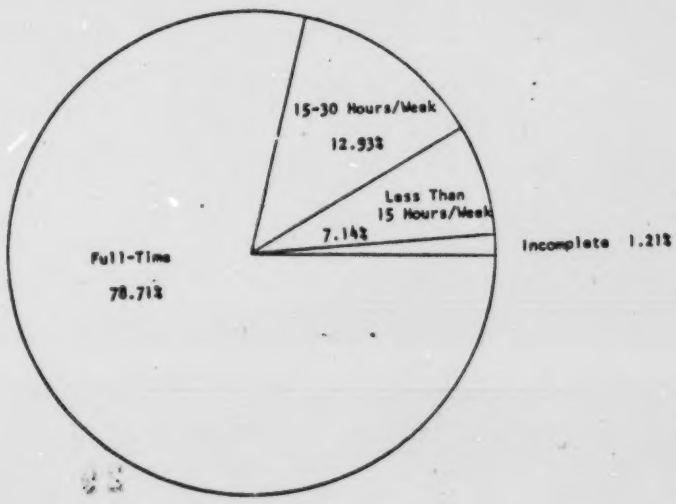
EMPLOYMENT STATUS OF ACTIVE R.N.'s LICENSED IN TEXAS (HOURS/WEEK)

1971 - 1972

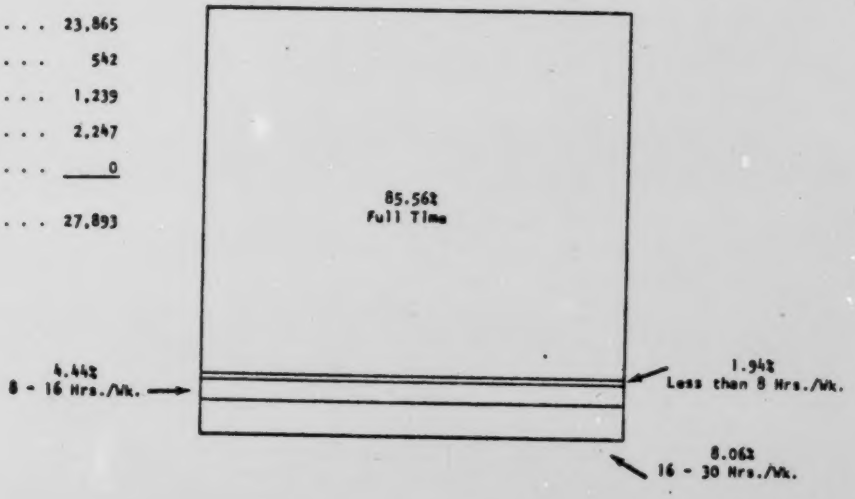
Full-time	20,361
15-30 Hours/Week	3,346
Less than 15 Hours/Week	1,847
Incomplete Data	314
Total	25,868



Shown below are the activity levels for LVN's in the state:

SPECIFIC EMPLOYMENT STATUS OF ACTIVE LVN'S
LIVING IN TEXAS, 1972-1973

Full Time	23,865
Less than 8 Hrs./Wk	542
8 - 16 Hrs./Wk.	1,239
16 - 30 Hrs./Wk.	2,247
No Response	0
TOTAL	27,893



Basic Educational Preparation

One of the features of active RN's in Texas is the exceedingly large number of diploma program graduates. In 1972, almost 73 percent of active RN's had received their basic preparation in a diploma program. Baccalaureate graduates accounted for slightly over 15 percent of all active RN's and associate degree graduates comprised just over seven percent of all active RN's. These percentages can be expected to change as the enrollments and graduations of the three types of programs change. This change is forecast in the number of graduates in 1972, as shown here:

BSN	597
ADN	859
Dipl.	348

As shown in the numbers of graduates of each type program in 1972, the number of diploma graduates is declining as the programs continue to be phased out while the baccalaureate and associate degree programs are increasing in number. The obvious conclusion is that the number of active diploma nurses will slowly give way to the increasingly large numbers of graduates from the other types of programs.

The basic educational preparation of registered nurses in practice during 1972 is graphically displayed in the figure shown below:

BASIC EDUCATIONAL PREPARATION OF ACTIVE RN'S
LICENSED IN TEXAS, 1971 - 1972

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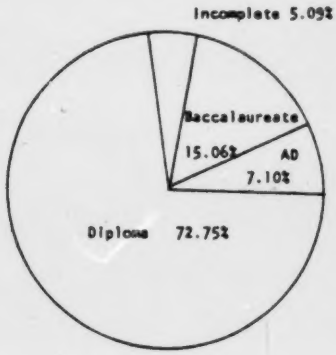
Diploma	18,820
Associate Degree	1,836
Baccalaureate	3,896
Incomplete	1,316

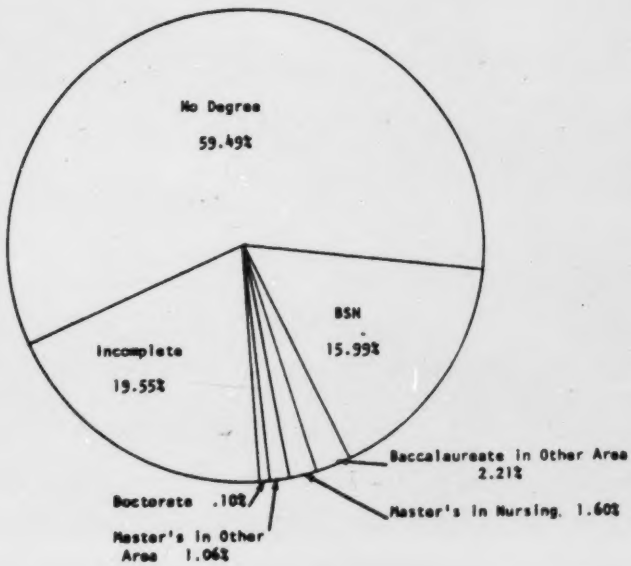


Highest Educational Preparation

Because of the format of the licensure card, the category "No Degree" was confusing. The intent was that "No Degree" meant any educational level less than a bachelor's degree. However, there is some question as to the way in which associate degree holders classified themselves. It is probable that this problem accounts for the large number of incomplete responses in this category as indicated in the chart below:

HIGHEST EDUCATIONAL PREPARATION OF ACTIVE RN'S
LICENSED IN TEXAS, 1971 - 1972

No Degree	15,389
Baccalaureate in Nursing	4,136
Baccalaureate in Other Area	572
Master's in Nursing	414
Master's in Other Area	274
Doctorate	25
Incomplete Data	5,058
Total	25,868



With the increasing availability of graduate courses in nursing in various locations in the state there should be a significant increase in the number of master's degrees in nursing over the next few years.

Field of Employment

Hospitals continue to employ the largest number of active professional nurses, accounting for 64.09 percent, while office nurses and school nurses make up the next two largest groups. The number of professional nurses working in nursing homes is 1,057 or 4.09 percent of active nurses. This figure is particularly significant since there are 917 licensed nursing and custodial care homes in the state. The problem will be discussed in greater detail later in this report but it is readily apparent that in this field there is a great need for more professional nurses.

The distribution of RN's among the various employment settings in 1971-72 is shown here:

FIELD OF EMPLOYMENT OF ACTIVE RN'S
LICENSED IN TEXAS, 1971 - 1972

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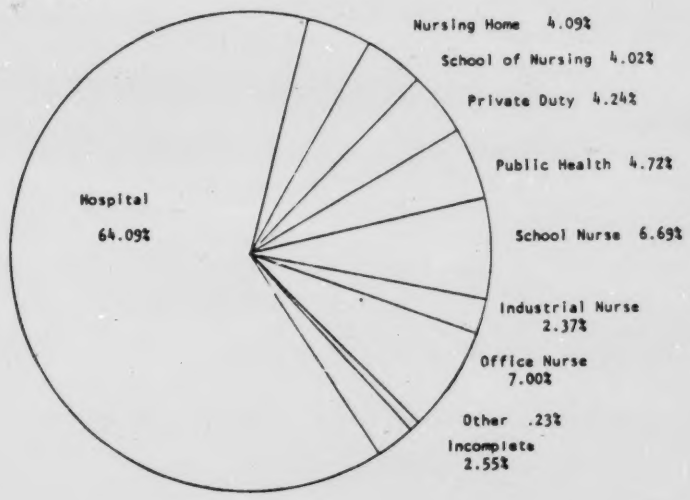
Hospital	16,580
Nursing Home	1,057
School of Nursing	1,041
Private Duty	1,097
Public Health	1,220
School Nurse	1,730
Industrial Nurse	614
Office Nurse	1,810
Other	60
Incomplete	659
Total	25,868



Hospitals also employ the largest segment of active LVN's in Texas, accounting for 63.72 percent. However, 17.12 percent of LVN's are employed in nursing homes. With the exception of the hospitals, in most employment settings nurses are predominantly RN's or predominantly LVN's. The ideal health delivery system is one in which there is a proportionate distribution of both types in all job settings. One positive approach to reaching this goal has been the recent increase in the the utilization of LVN's to provide public health services under the direction of registered nurses.

The distribution of the active LVN's in Texas during 1972-1973 according to places of employment, both in numbers and percent of the total, is shown here:

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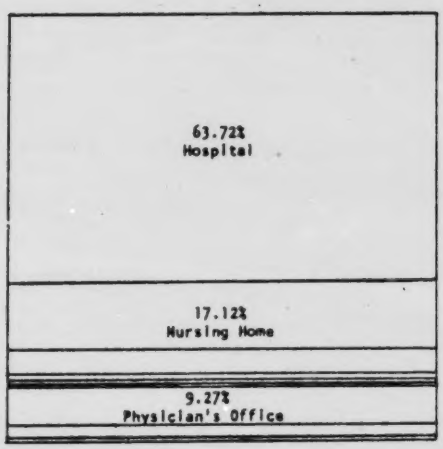
FIELD OF EMPLOYMENT OF ACTIVE L.V.N.'S IN TEXAS[1]

1972 - 1973

Hospital	17,774
Nursing Home	4,776
Private Duty	1,544
Public Health	291
School Nurse	143
Industry	87
Office Nurse	2,586
Other	507
No Response	185
TOTAL	27,893



[1]Living in Texas

These data clearly show that LVN's are employed in those areas of greatest need, hospitals and nursing homes. Almost 81 percent (22,500) are working in these institutions.

Employment Positions Held by Registered Nurses

Of the active professional nurses in the state, over 44 percent classified themselves as general duty or staff nurses. When one combines the levels of "head nurse or assistant", "supervisor or assistant", and "administrator or assistant", the total is 40 percent. This appears to show that there is about one supervisory nurse for every staff nurse and we believe that this condition is not the case in practice and that there are several possible explanations for the distortion. Such staff alignment would be uneconomical and wasteful and the data collected from the hospital survey indicates it is not the true condition. One example of the distortion would be where only one nurse was employed, such as in a physician's office, where she functioned in a variety of responsibilities. The figure shown below indicates the types of positions held by active RN's in Texas during the year 1971-72:

TYPES OF POSITIONS HELD BY ACTIVE R.N.'s LICENSED IN TEXAS

1971 - 1972

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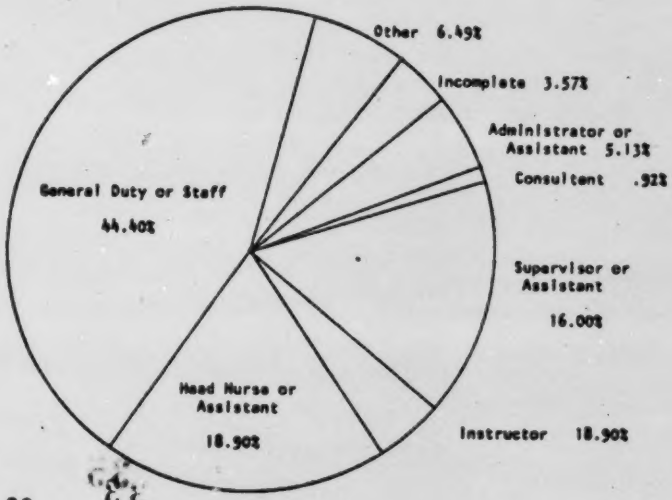
Administrator or Assistant	1,327
Consultant	237
Supervisor or Assistant	4,138
Instructor	1,188
Head Nurse or Assistant	4,890
General Duty or Staff	11,486
Other	1,678
Incomplete	924
Total	25,868



FINDINGS RELATED TO SUPPLY AND DEMAND

Although Texas has a relatively low nurse/population ratio in comparison with other states, there has been gradual improvement over the past few years from 188 per 100,000 in 1966 to 214 per 100,000 in 1972. With the current increase in the number of professional nursing programs along with expanding enrollments in many older programs, the predicted ratio will increase to 301 by 1980 and 362 by 1990. Based on the application of optimum ratios, Texas should require 350 RN's per 100,000 population by 1980 in order to provide an improved level of nursing care. According to national predictions, by 1980 between 379 and 406 RN's will be available for every 100,000 population (1:5). When the 1972 average ratio was 380 for the nation as a whole, a 1980 ratio of 350 for Texas might seem to be an under-estimation of need. However, given the unusually high ratios in a few states that tend to elevate the national average, and because of the uneven population distribution in Texas, a somewhat lower ratio would meet the needs of this state.

Whether or not Texas reaches the predicted ratios of RN's to population is dependent on the maintenance of current levels of enrollment. There are several factors which could have an effect on the present projections and should be kept in mind. If current rates of production lead to an over-supply of nurses in the most popular job settings it could easily cause a decrease in enrollments. Secondly, the recent cutback and other changes in federal funding to nursing programs and nursing students could also serve to decrease enrollments or make the establishment of new programs less feasible for colleges and universities.

Student Geographic Mobility

During the spring semester of 1972, the staff conducted a survey of students in nursing programs in the state to determine geographic mobility patterns. The students in 44 nursing programs participated and of the 5,305 students enrolled, 4,504 returned the survey instruments to the staff for analysis. The survey therefore included 7[illegible].4 percent of nursing students enrolled that semester.

Of the 4,504 students who responded, 88 percent were Texas residents at the time they applied for admission to their nursing programs and 12 percent (456) were from out-of-state. Of the 456 out-of-state students, 57 percent (262) were enrolled in baccalaureate programs, 26 percent were enrolled in ADN programs, and 17 percent in diploma programs. Of the out-of-state students enrolled in BSN programs (262), some 44 percent were enrolled in three programs, one publicly supported and two privately supported (TWU and Baylor and TCU). The figure below shows the residence status of the 4,504 students by type of program:

	Texas	Out-of-State
Diploma	89.3	10.7
ADN	93.6	6.7
BSN	86.0	14.0

These data show that Texas residents dominate nursing program enrollment in programs at the baccalaureate level and below.

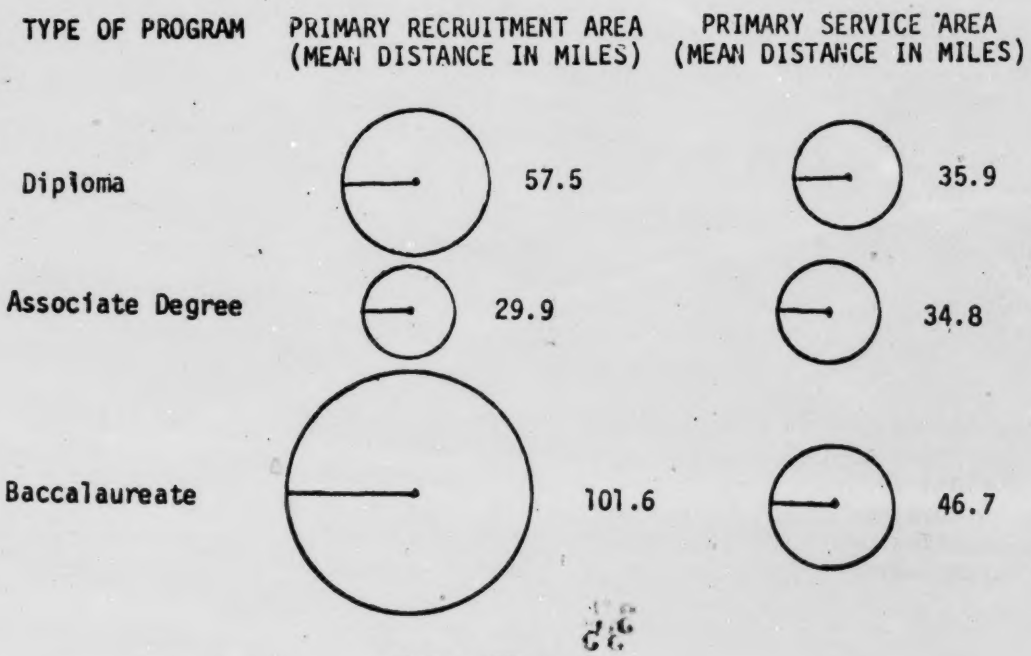
The county of residence of Texas students was tabulated and enrollments included students from 214 of the 254 counties in the state. Of greater importance was the finding that 40 percent of the total Texas resident enrollment was from only four counties and 51 percent from eight counties. The ten leading counties with greatest enrollment of Texas resident students are shown here:

		Number of Students	Percent	Cumulative Percent
1.	Harris	615	15.46	15.46
2.	Dallas	442	11.13	26.59
3.	Bexar	281	7.07	33.66
4.	Tarrant	280	7.05	40.71
5.	Galveston	121	3.05	43.76
6.	McLennan	111	2.79	46.55
7.	Travis	96	2.42	48.97
8.	Nueces	91	2.29	51.26
9.	Potter	83	2.09	53.35
10.	Jefferson	81	2.04	55.39

Distribution of Graduates by Type of Nursing Program

The Student Geographic Mobility Survey indicated that there are distinct differences in the mobility patterns of graduates of the various types of professional nursing programs. These differences have implications for planning which are related to locations of schools and functions expected of graduates.

The recruitment area and the service area for each of the three types of programs were identified and the resulting analysis indicated that there is a greater difference among the recruitment areas of the three types than among the service areas. Although the ADN programs indicated a much smaller recruitment area, it was the only type which had a service area larger than its recruitment area. A schematic representation of comparative size of the two areas for each type program is shown here:



The characteristics of recruitment of students and distribution of graduates, as shown in these diagrams are important factors in projecting the supply of nurses throughout the state to 1980. Other characteristics of each type program have a significant effect which require further description.

Most of the BSN programs in Texas are located in metropolitan areas and use some of the best clinical facilities in the state. The students are usually single and recruited from throughout the state and earn the baccalaureate degree which has potential earning power above that of the shorter programs. The graduates have shown a preference for employment in the larger cities where professional opportunities are more attractive.

Most of the ADN programs are located in community colleges and small universities where clinical resources are more limited than those in urban medical centers and hospitals. Enrollment in these programs tends to include large numbers of married students who live in the surrounding community. The average ADN student is older than the average BSN student and usually does not have the time nor resources to move to another location to attend school.

The diploma program student, as shown on the diagram on page 24, tends to come not only from the community where the program is located but also from outlying communities. The six diploma programs still in operation are in Abilene, Amarillo, Austin, Lubbock, San Antonio, and Tyler. The small service (employment) area is attributable, in part at least, to the long-standing popularity diploma graduates have with employers. Students who enter diploma programs are usually in pursuit of a career, not a college education.

These totals represent enrollments in all three types of registered nurse programs. When the data were displayed by type of program, the following results were observed:

TEN MAJOR COUNTIES OF RESIDENCE BY TYPE OF PROGRAM

Diploma			Associate Degree			Baccalaureate			
Lubbock			Harris			Harris			
El Paso			Dallas	608		Dallas 1/3	627		
Tarrant	249		Bexar			Tarrant			
Harris			Galveston 1/3			Bexar 1/2			
Jefferson 1/3		378	Nueces		922	Travis			951
Bexar			Tarrant			Denton			
Potter			McLennan 1/2			McLennan			
Smith			Grayson			Bell 2/3		1,255	
Travis 1/2			Hidalgo			Jefferson			
Randall			Wichita			Lubbock			

The source of Texas resident nursing students shown above demonstrates the differences of the recruitment patterns. When the survey was conducted in 1972, diploma programs were in operation in seven of the counties providing 50 percent of diploma program enrollments; ADN programs were in operation in each of the counties providing 50 percent of enrollment in that type of program, and BSN programs were in operation in the counties providing 50 percent of enroll-

ment in BSN programs. These enrollment sources indicate the impact that the existence of a program has on enrollment.

Enrollment status in the three types of programs, as measured by the number of full-time and part-time students, varied significantly. The diploma and baccalaureate programs had part-time enrollments of less than 4 percent while over 25 percent of associate degree students were part-time. The enrollment status is shown here:

DISTRIBUTION OF ENROLLMENT STATUS BY TYPE OF PROGRAM

	Full-time	Part-time
Diploma	97.9%	2.1%
Associate Degree	72.8%	27.2%
Baccalaureate	96.1%	3.9%

When asked about the preferred county of practice, the results were closely correlated to source of students. With the exception of El Paso County, the top 10 counties were the same, but in different order, as shown below. The students reported they expected to practice in 152 of the state's 254 counties, but the most preferred counties tended to be those in which most of the students had residence at the time of application to the nursing programs. The most preferred counties, and the number preferring each county, are shown here:

MAJOR RECEIVING COUNTIES

County	No. of Students	Percent of Total Enrollment	Cumulative Percent
Harris	772	20.03%	20.03%
Dallas	683	18.95%	38.98%
Bexar	316	8.77%	47.75%
Tarrant	239	6.63%	54.38%
Travis	136	3.77%	58.15%
Potter	129	3.58%	61.73%
Galveston	113	3.13%	64.86%
Nueces	97	2.69%	67.55%
McLennan	81	2.25%	69.80%
El Paso	66	1.83%	71.63%

Approximately 80 percent of the nursing students indicated practice in Texas the first year following graduation. Nearly 72 percent were Texas residents remaining in the state while just over six percent were non-residents planning to stay for at least one year of practice. Of the 456 non-residents attending school over 52 percent plan to practice in Texas.

The preference for practice location, by type of program, is illustrated in the chart shown here. In the diploma column, five of the ten counties listed have diploma programs; in the associate degree column, each of the leading counties has an ADN program, and in the baccalaureate column, all but one of the leading five counties have at least two BSN programs.

MAJOR COUNTIES OF EXPECTED PRACTICE BY TYPE OF PROGRAM
AS REPORTED BY STUDENT GEOGRAPHIC MOBILITY SURVEY, 1972

Diploma			Associate Degree			Baccalaureate		
Harris	252	378	Harris	615	922	Harris	634 1/3	
Potter			Dallas			Dallas	951 1/2	
El Paso			Bexar	1/3		Bexar	1428 3/4	
Lubbock	1/3		Galveston			Tarrant		
Travis			Nueces			Travis	85%	1,617
Tarrant	1/2		Tarrant	1/2				
Bexar			McLennan					
Smith			Grayson					
Jefferson			Potter					
Taylor			Wichita					

While mobility among professional nurses varies considerably, it appears that the distances involved are probably greater during the first few years following graduation. In contrast, the LVN Practitioner Survey indicated that 69.2 percent of the respondents were practicing in the same county in which they had attended an LVN program.

With the majority of BSN programs in the largest cities and the majority of ADN programs in the smaller cities it would appear that the rural-urban distribution problems of registered nurses would be minimal. However, a further look at areas of expected practice of graduates of these programs presents some perplexities.

First, each of the three types of nursing education programs is designed to produce nurses prepared to function in somewhat different capacities. Ideally, there should be graduates of all three programs working together as a team particularly in institutional settings. In the ADN program the emphasis is primarily on technical skills and direct nursing care provided in acute settings. Leadership and community health are not emphasized and the graduates are intended to work in settings under the supervision of nurses with more experience or educational preparation.

Diploma graduates, having a longer period of educational preparation, receive somewhat more emphasis on management of large groups of patients and are expected to function more independently than the ADN graduates. However, they receive minimal preparation for practice outside the acute care settings. The baccalaureate graduate is prepared to give skilled patient care but also has preparation in leadership skills and delivery of nursing services offered in other settings. The program provides a broad base of general education and emphasizes the underlying concepts, principles and theories essential to nursing.

Although the theoretical purpose of the ADN program is to prepare bedside nurses working under the direction of more experienced health team members, two-thirds of the graduates of these programs find themselves in situations where they may be the only nurses available and are expected to fill all levels of nursing positions regardless of their educational preparation. Since this distribution problem does not appear likely to change significantly, the need to re-evaluate the product of the ADN program in particular should be given consideration.

The prospect that an over-supply of RN's is likely to occur in the larger cities in the state is supported by data from the Student Geographic Mobility Survey which indicated that 48 percent of all new graduates plan to practice in Harris, Dallas, or Bexar counties. With the number of new graduates licensed each year totaling 2,000 or more, this represents a significant potential increase in the supply of professional nurses to the major metropolitan areas.

Inactive Nurses

In the past there has been a tendency to view the pool of inactive nurses as a partial solution to an identified shortage. Based on the fact that the majority of nurses are women, many of whom choose to be inactive while raising a family, there appears to be little likelihood that the situation will change significantly in the near future. Improvement of pay scales, availability of child care facilities, refresher courses, and other incentives may serve to attract some nurses back into practice but for the most part these efforts have not had any significant effects on solving problems of shortages. While the added income may elevate the family's standard of living, it appears that those who are voluntarily inactive can maintain a standard of living which is acceptable to them without practicing nursing.

Nursing Student Opinion on Length of Professional Service

There were significant differences among nursing students, by type of program, when they were asked by the Project to indicate the length of time they planned to work in nursing under varying circumstances. We realize that the plans a student has for a career while still in college or in a diploma program can change, and frequently do; we feel that there were enough students responding to this particular portion of the survey that the results, in lieu of more definitive data, can be useful in making predictions.

As shown on the chart below, approximately one-third (32%) of all nursing students who responded plan to practice professional nursing for the duration of their normal career life. Another one-third plan to practice full-time until they begin having children and then work part-time while rearing their children. The variance in these plans is directly related to the type of nursing program in which the student is enrolled. As shown below, nearly one-half of the ADN students plan full-time employment for the duration of their careers, while one-fifth (20%) of the baccalaureate students indicated the same plan.

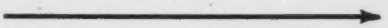
EXPECTED EMPLOYMENT PATTERNS BY TYPE OF PROGRAM
ON OPTIONS LISTED IN STUDENT GEOGRAPHIC MOBILITY SURVEY*

1. To practice nursing full time for the rest of my work life.
2. To practice nursing full time before I have a family, then part time while rearing the children.
3. To practice nursing full time before I have a family, stop work while children are in school, then resume my career.
4. To work part time only for the rest of my work life.
5. To practice nursing full time before I have a family, then stop working forever.
6. Do not plan to practice nursing.
7. Other.

*The survey tabulations are on page 30.

PERCENT RESPONDING TO THE SEVEN OPTIONS
BY TYPE OF PROGRAM

	1	2	3	4	5	6	7	Total
Diploma	29%	37%	18%	2%	1%	1%	10%	100%
Associate Degree	45%	28%	11%	6%	1%	1%	11%	100%
Baccalaureate	20%	41%	26%	2%	1%	1%	8%	100%



Decreasing Contribution

In order to estimate the professional career life of nurses by type of program, the staff developed the NELE (Nurse Employment Life Expectancy) formula based on returns from the two Student Mobility Surveys. We based the formula upon the students' responses to the seven career plans listed above. We weighted the first four options, in order, with 100 percent for number one, 50 percent for number two, 25 percent for number three, and 12.5 percent for number four. When these weighted values were applied to all the responses, we found that, if a full time career from graduation to retirement was 100 percent, the following percentages, by type of program, are the estimated professional career plans of those in the surveys:

Diploma	62.6%
Associate Degree	52.3%
Baccalaureate	47.3%

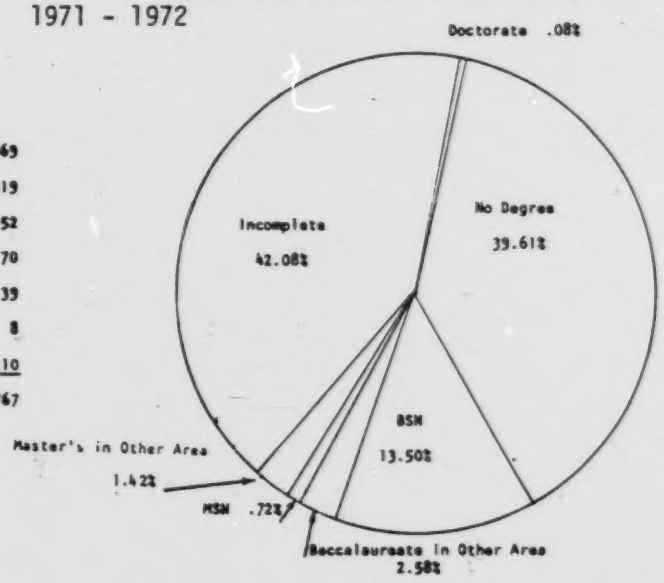
Several factors must be taken into consideration when interpreting this information. First, the data covers a limited time span of two years and does not necessarily show a trend. Second, it is based on future plans of students and may not accurately reflect the actual employment patterns that will occur. Third, age has not been taken into consideration. Since a significant proportion of ADN students are older than the average age of most nursing students, the remaining number of years before reaching retirement age is fewer than for most students in other types of programs.

The chart on the following page shows the educational background of nurses who were inactive in 1971-72. The large number of "incomplete" responses can be partially attributed to the lack of a category for associate degree graduates. A second possibility is that the category includes retired nurses who have been active for most of their lives and do not feel that they fit in an inactive category.

INACTIVE RN'S LICENSED IN TEXAS BY HIGHEST EDUCATIONAL PREPARATION
1971 - 1972

BEST COPY AVAILABLE

No Degree	3,869
Baccalaureate in Nursing	1,319
Baccalaureate in Other Area	252
Master's in Nursing	70
Master's in Other Area	139
Doctorate	8
Incomplete	4,110
Total	9,767



Another method of comparing educational preparation and professional inactivity is to arrive at the total number of active and inactive nurses in each educational category and compute the percent in each category who are inactive, as shown here:

Category	Percent Active	Percent Inactive
No Degree	80%	20%
BSN	76%	24%
BS in Non-nursing Field	69%	31%
MSN	86%	14%
Doctorate	76%	24%
Incomplete Response	55%	45%

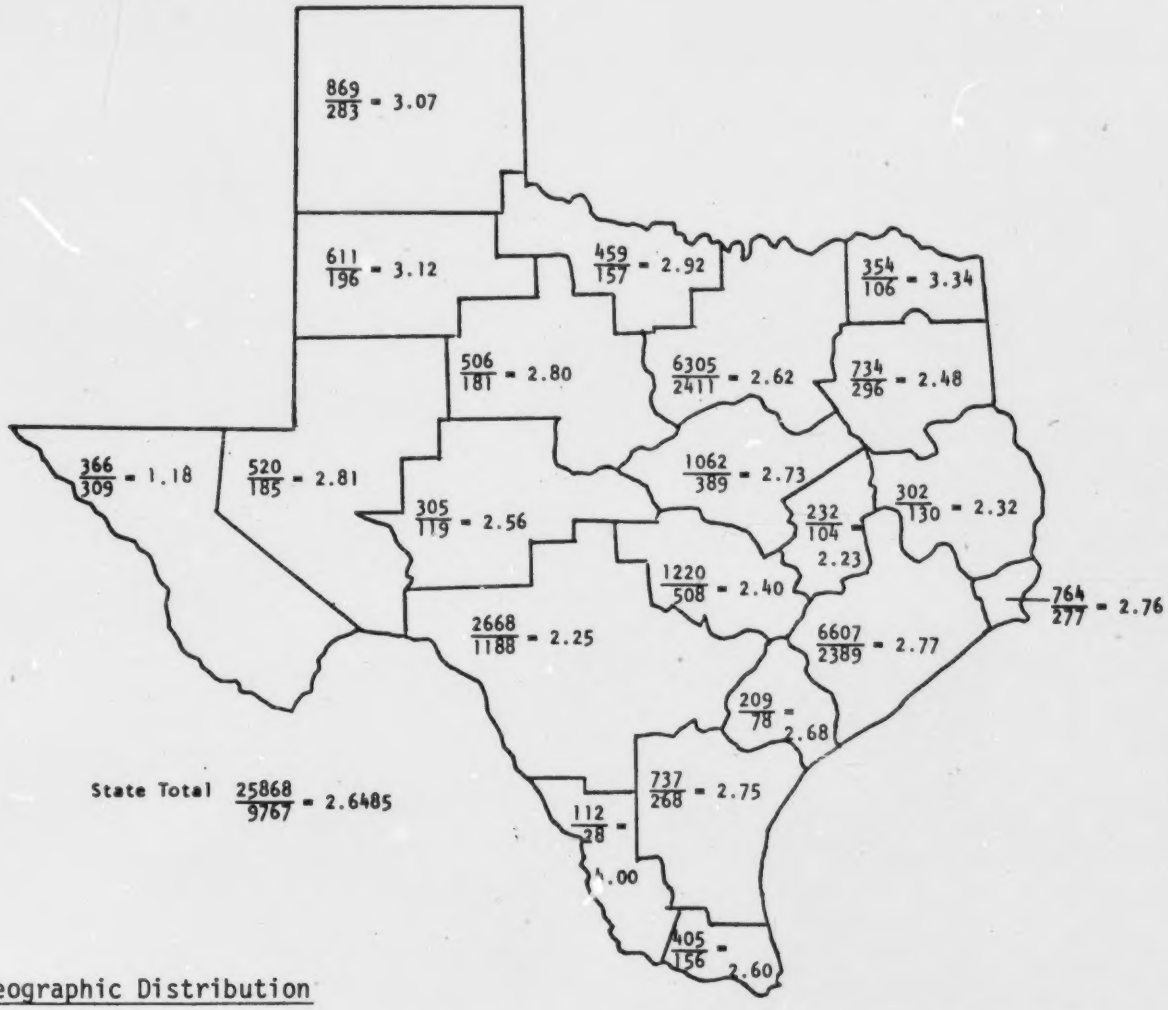
Several recent social and economic trends, such as the women's liberation movement, smaller families, and inflation, have served to increase the number of women in the work force. Altman predicts that for the nation there will be a slight increase in nurse participation rates in the labor force until 1980, but the rate of increase will be slower than it was in the 1960's (1:5). This was demonstrated in the 1972 Inventory of Registered Nurses which shows an increase in the proportion of active nurses from 65% in 1966 to 69% in 1972.

A progress report on the long-range Nurse Career Pattern Study being conducted by the National League for Nursing reveals that contrary to popular belief, nurses do not work for a few years and then leave the profession entirely to marry and have children. The report shows that five years after graduation 76.2% of associate degree graduates were active, 68.6% of diploma graduates were active, and 62.6% of baccalaureate graduates were active.

The map shown below compares the number of active nurses to inactive nurses in each of the regions in the state. The resulting ratio shows the number of active nurses for every inactive nurse. The larger the number, the better the utilization of the available nursing manpower pool in that area.

NUMBER AND RATIO OF $\frac{\text{ACTIVE}}{\text{INACTIVE}}$ RN'S BY REGION

1971 - 1972



Geographic Distribution

The rural-urban maldistribution of nurses is a problem for which no effective solution has been proposed. The problem is clearly illustrated by the regional statistics in the chart on the following page.

The figures alone are not indicators of the degree of need for nurses in any particular area. Such factors as the size of the rural area and the proximity to medical facilities in urban areas must also be considered. It is expected that the proportionate number of nurses needed in rural areas will be less than in the cities. However, in Texas, where 50 percent of existing hospitals are 50 beds or less and mainly in rural communities, the figures do indicate the problems involved in recruiting for these hospitals.

RATIOS OF ACTIVE RN'S PER 100,000 POPULATION FOR THE ENTIRE REGION, FOR THE URBAN AREAS ONLY, AND FOR RURAL AREAS ONLY
1970 - 1971

Region	Entire Region	Urban Areas	Rural Areas
1	244	376	142
2	176	236	103
3	192	233	132
4	228	233, 214, 246*	137
5	152	149	153
6	149	240	123
7	173	225	135
8	206	212	95
9	169	166, 222*	147
10	249	314	155
11	234	278	210
12	253	318	125
13	153	210	106
14	118	No SMSA in Region	118
15	228	228	Entire Region is Urban
16	266	266, 393*	126
17	163	No SMSA in Region	163
18	214	231	156
19	95	115	41
20	159	166	142
21	116	112, 122*	96

* Regions with more than one SMSA.

Geriatric Nursing

With the rapid advances in medicine during the last few decades, we have seen a significant increase in the normal lifespan which in turn results in a larger portion of the population age 65 and over. As a group, this segment of the population exhibits the most complex of health care needs. The normal problems of aging combined with the multiple chronic illnesses of many older individuals present some of the most challenging problems in nursing care. Nursing students often view their experiences in nursing homes with distaste and comment that the field of geriatrics is depressing. They appear to prefer settings in which the health care provided leads to recovery for the majority of patients.

Responses on the Student Geographic Mobility Survey indicated that out of 4,504 students, only 32 wished to practice in nursing homes. Of these, 5 were diploma students, 19 associate degree students, and 8 baccalaureate students. This figure represents .6 percent of potential graduates over the next three to four years. Of the 25,868 active RN's in Texas in 1971-72, only 1,057

were employed in nursing homes. An additional 237 indicated they worked in geriatrics but not in a nursing home. Of those who are employed in nursing homes, many are in administration rather than direct patient care. In the various regions, the ratio of RN's to nursing home beds is severely inadequate. The range is from 1:31 to 1:170, as shown here:

RN/NURSING HOME BED RATIOS

Region 1	1:47	Region 8	1:30	Region 15	1:113
Region 2	1:87	Region 9	1:74	Region 16	1:50
Region 3	1:111	Region 10	1:58	Region 17	1:82
Region 4	1:70	Region 11	1:68	Region 18	1:31
Region 5	1:123	Region 12	1:82	Region 19	1:88
Region 6	1:112	Region 13	1:121	Region 20	1:90
Region 7	1:170	Region 14	1:129	Region 21	1:42

When one considers the above ratios in terms of RN per bed available at any one time, the figures would have to be multiplied by three, eight-hour shifts. This indicates that in the region with 1:170 there would be one RN on duty for every 510 patients. To further compound the problem the 1972-73 licensure data indicate that of all LVN's working in nursing homes, 81 percent are charge nurses. The obvious conclusion is that the bulk of direct patient care is being given by aides in these institutions. Statistics further indicate that many nursing homes do not employ any registered nurses for patient care. The reasons for this can partially be attributed to a shortage of RN's seeking positions in nursing homes. Economic factors may make it difficult for nursing home administrators to pay professional salaries. Whatever the underlying reasons, this is an area of serious concern if the public is to receive the quality of nursing care desirable in this setting.

CHAPTER III

UTILIZATION OF NURSES

Over the past several years there has been a growing trend to utilize baccalaureate nurses in capacities which are referred to by various terms such as expanded roles, extended roles, nurse practitioners, clinical specialists, and a variety of other labels. Nurses who are working in these capacities are performing functions that, until a few years ago, were not considered the responsibility of the nursing profession. At the present time many nurses across the country are providing primary health care. In the process they make initial health assessments, deal with common health problems as independent practitioners, make referrals, collaborate with physicians and other health disciplines and provide continuity of health services to clients who move from home to hospital to extended care facility. The evidence that nurses are wanted and being utilized effectively in expanded roles is accumulating rapidly as reported by Schutt (48).

> Nurses functioning in expanded roles are not intended to simply extend the physician's time or be a physician's assistant. The purpose is to use registered nurses to their fullest potential. This implies that the nurse makes independent judgements and instigates nursing therapies to solve patient problems that are not normally dealt with by physicians.

In her description of her duties as a nurse practitioner in a neurosurgical clinic, Leininger described some of the kinds of nursing problems presented. They included problems of activities of daily living complicated by special diets, limitations of activity, and difficulty in understanding medication orders. In her study, the physicians agreed that the quality of health care given by both the nurse and the physicians was greatly improved (25:1,275).

In another study to determine educators' perceptions of the extent to which nurses are likely to be performing expanded functions, the responses indicated they expected from 63 to 71 percent of nurses to be performing expanded functions within the next ten years (14).

Not all nurses are prepared to function in such roles and not all wish to assume the responsibility and accountability for professional practice of this nature. However, because of the demand for primary care, and the feeling that registered nurses can and should assume such responsibilities, an increasing number of baccalaureate nursing programs are providing preparation for primary care by including history taking and physical and psychosocial assessment techniques in their curriculum.

In 1971, a report of the extended role of the professional nurse was published by the Department of Health, Education, and Welfare (14) and, after carefully analyzing the report, the Nursing Project Council adopted the following summary as its position on the extended role for nurses.

1. Health education centers should undertake curricular innovations that demonstrate the physician-nurse team concept in the delivery of care in a variety of settings under conditions that provide optimum opportunity for both professions to seek the highest level of competence. Financial support should be made available for programs of continuing nurse education that could prepare the present pool of over one million active and inactive nurses to function in extended roles. The continuing education of nurses should be structured to encourage professional advancement among and through all nursing education programs and by encouraging the use of equivalency examinations to evaluate competence, knowledge, and experience.

2. Increased attention should be paid to the commonality of nursing licensure and certification and to the development and acceptance of a model law of nursing practice suitable for national application through the states. The nursing profession should undertake a thorough study of recertification as a possible means of documenting new or changed skills among practicing nurses.

3. Collaborative efforts involving schools of medicine and nursing should be encouraged to undertake programs to demonstrate effective functional interaction of physicians and nurses in the provision of health services and the extension of those services to the widest possible range of the population. The transfer of functions and responsibilities between physicians and nurses should be sought through an orderly process, recognizing the capacity and desire of both professions to participate in additional training activities intended to augment the potential scope of nursing practice. A determined and continuing effort should be made to attain a high degree of flexibility in the interprofessional relationships of physicians and nurses. Jurisdictional concerns per se should not be permitted to interfere with efforts to meet patient needs.

4. Cost-benefit analyses and similar economic studies should be undertaken in a variety of geographic and institutional settings to assess the impact on the health care delivery system of extended nursing practice. Toward the same objective, attitudinal surveys of health care providers and consumers should be conducted to assess the significance of factors that might affect the acceptance of nurses in extended care roles which they do not now normally occupy.

In addition to adoption of these summary statements, the Council also adopted the following eight functions as inherent in the extended role:

1. Eliciting and recording a health history which would include psychosocial and environmental assessments.

2. Making physical assessments.

3. Interpreting selected laboratory findings.

4. Making diagnoses, choosing, initiating and modifying selected therapies.

5. Assessing community resources and needs for health care.

6. Utilization of available community resources related to identified needs of patients.

7. Providing emergency treatment as appropriate, such as in cardiac arrest, shock or hemorrhage.

8. Providing appropriate information to the patient and his family about diagnosis or plan of therapy.

The Council also agreed that the "full participation of nursing in restructuring the health care system" and in the individual nurse's potential to contribute to the solution of present and future health care problems demands maximum utilization of professional nurse manpower.

Foreign Educated Nurses and Quality Nursing Care

One of the more elusive features of utilization of nursing personnel relates to the foreign nurse recruited to work in Texas hospitals. The Nursing Project was unable to acquire precise statistical data on the number of foreign educated nurses, licensed or unlicensed, who are employed in this state.

We did learn from the United States Immigration Service that about 3,000 foreign nurses per year enter the United States on permanent visas, and that about 600 to 1,500 temporary visas are issued to foreign nurses each year. A statewide survey conducted by the Texas Hospital Association in 1973 showed that there were approximately 1,400 foreign educated nurses employed in Texas hospitals. We are unable to determine if this total represented only those licensed to practice or all of the licensed and unlicensed nurses who received their educational preparation outside the United States. If the total represents only those having Texas licensure then the total number employed is considerably higher.

For several years, Texas issued temporary work permits for foreign nurses to practice until they could take the licensure examination. This procedure was stopped in 1973 when the Board of Nurse Examiners concluded that the high failure rate of the foreign nurses posed a severe health care problem in the cases where temporary permit holders were given responsibilities normally given to licensed nurses. The data shown on the table on the following page, covering the period July, 1970, through October, 1972, clearly points out the difficulty experienced by foreign educated nurses, for whatever reasons, in passing the licensure examination for registered nurses in Texas.

FOREIGN NURSE RESULTS ON STATE BOARD TEST POOL EXAMINATION
FOR PROFESSIONAL NURSING IN TEXAS*
1970-1972

DATE AND NUMBER OF CANDIDATES			TOTAL	PASS	PERCENTAGE PASSING
July, 1970	1st	31	61	27	44.3%
	Repeat	30			
October, 1970	1st	38	65	9	23.0%
	Repeat	27		11	40.0%
April, 1971	1st	125	182	22	17.6%
	Repeat	57		17	29.1%
July, 1971	1st	149	231	24	16.1%
	Repeat	82		18	21.9%
October, 1971	1st	97	225	19	19.5%
	Repeat	128		23	17.9%
April, 1972	1st	244	442	48	19.6%
	Repeat	198		57	27.2%
July, 1972	1st	176	410	30	17.0%
	Repeat	234		48	20.5%
October, 1972	1st	236	568	41	17.3%
	Repeat	332		90	27.1%

The licensure examination administered to applicants for registered nurses in this state is designed to certify that the individual who passes the examination can practice safely in any employment setting for nurses. The failure rates shown on the table above indicate recruitment of foreign educated nurses is not the most effective way to increase the number of registered nurses for the health care system in this state.

The country of origin of the foreign educated nurse and her probable success in meeting licensure requirements do not seem to be related to any noticeable extent. The failure rate is exceedingly high, even by nurses representing countries whose language and culture resemble our own. Shown on the following page are the results of the licensure examination in October, 1972, with the national origin of the nurse identified.

The greatest number of examinees were from India (73), Korea (37), Australia (20), the Philippines (220), England (72), and Mexico (29), with a total of 451 from those six countries. Only 29 passed who were taking the examination for the first time, a passing rate of just over six percent, or conversely, a failure rate of about 94 percent.

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*Report of the Board of Nurse Examiners for the State of Texas, April, 1973.

RESULTS OF COUNTRIES HAVING MORE THAN ONE NURSE TAKE STATE BOARD TEST POOL EXAMINATION, OCTOBER, 1972*

COUNTRY	THE NUMBER WRITING THE EXAMINATION	THE NUMBER PASSING THE EXAMINATION	NUMBER WRITING FIRST TIME AND PASSING
Algeria	5	0	0
South Africa	9	2	0
Hong Kong	3	0	0
India	73	14	2
Iran	3	1	1
Israel	4	0	0
Korea	37	5	0
Taiwan	9	3	0
Thailand	9	1	0
Australia	20	6	4
New Zealand	2	0	0
Philippines	220	62	12
England	72	18	11
Ireland	12	2	1
Netherland	4	2	1
Scotland	6	2	2
Wales	3	0	0
Canada	7	4	3
Mexico	29	1	0
Panama	4	0	0
Argentina	5	2	1
Bolivia	3	1	0

The report also stated that many of those passing had taken the Test Pool Examination for professional nurses as many as 10 times. As a result of these statistics and the responsibility of the Board to maintain standards of safe nursing practice, the decision was made to discontinue issuing permits to foreign nurse graduates, effective February 27, 1973. At the present time only 19 of the 50 states continue to issue permits.

Although Texas no longer issues temporary permits, a number of hospitals in the state recruit foreign graduates on a contract basis to supplement their professional nursing staffs. It is at this point that potential problems arise. If the nurse is unable to pass the examination she cannot legally work in the capacity of a professional licensed nurse and must be employed as a nursing assistant. Failure to pass the State Board Examination indicates inability to meet minimal requirements for safe nursing practice. If the nurse is allowed to assume the responsibilities and functions of a licensed nurse but is not an RN, a serious question of patient safety arises.

The poor performance of graduates of foreign programs has been attributed to several causes, including inadequate preparation in certain curriculum areas, difficulty with the English language, and unfamiliarity with objective tests. In addition to the testing problem those who have had contact with many of these graduates have pointed out additional reasons for the difficulties which graduates of foreign programs experience. Chief among these are the cultural

*Ibid.

differences that exist between this country and non-English speaking countries in particular. Differences in the complexity of the United States health care system and the extensive use of technology and complicated equipment may make it more difficult for the graduate of a foreign program to perform effectively.

The Texas Nurses' Association has provided assistance to many graduates of foreign programs by sponsoring classes to help them prepare for the licensure examination. However, it seems that more help is needed. When graduates of foreign programs are unable to meet licensure requirements they may suffer from inability to get a job, lower salary than they originally expected, and disappointment form being forced to work as a nurse assistant when they consider themselves professionals.

In an effort to minimize the difficulties faced by graduates of foreign nursing programs and ensure that they have the background to meet the requirements for state licensure in Texas, recruitment efforts should be based on specific criteria. The following suggestions are proposed as measures that could be employed.

1. Evaluation of an applicant's educational background and experience should be based on utilization of an evaluation instrument, developed by qualified individuals, including nurses, designed to determine the degree of qualification for job requirements in nursing in the United States. A minimum score should be established in order for an applicant to be accepted.

2. Recruitment procedure should include a personal interview with a registered nurse member of the recruitment team if at all possible. Such an interview should be essential if the applicant's responses on the evaluation instrument indicate potential difficulty in meeting licensure requirements.

3. Once the applicant arrives in the United States, the contracting employer should assume the responsibility for providing extensive orientation which includes job orientation, the approach to health care in the United States and adaptation to the life style in the United States. This should be essential for those recruited from non-English speaking countries.

4. Professional organizations and nursing education programs should make every possible effort to provide supplementary educational classes to assist with licensure problems or problems of adaptation to life in the United States.

Correlation of Educational Preparation and Utilization of Nurses

Utilization surveys conducted by the Nursing Project revealed that there were many instances where nurses either did not feel prepared for requirements of their jobs, or they were unable to put into practice some of the nursing functions for which they were prepared. Although it is not expected to entirely

resolve all of these differences, it is the belief of the Council that many could be eliminated by reasonable modification of current practices on the part of both education and the service sector. Problems dealing with areas in which new graduates felt unprepared will be discussed later in this report in the chapter on education. This portion of the report will present information on areas where nurses felt they were not able to utilize certain skills that would contribute to an improved quality of nursing care.

In the Project's survey of hospital nurses who had been in practice five years or less, 956 responded to a list of 76 job functions and identified those for which they were prepared in the educational programs but seldom practiced in the hospital. Some of the items listed were of greater importance than others and the staff performed a Chi Square analysis to identify those of greatest significance. Shown below are the number of functions in which the nurses received educational preparation but which they seldom practiced in the hospital setting.

EDUCATIONAL PREPARATION	NUMBER OF SIGNIFICANT ITEMS
LVN	15
Dipl.	27
ADN	4
BSN	30

These results illustrate that the ADN graduates utilize the greatest amount of skills learned in their educational preparation, while the graduates of the other types of programs do not, or do not have the opportunity, to practice those skills and techniques. The functions identified by diploma and baccalaureate graduates as seldom utilized included:

1. Conduct team conferences
2. Initiate teaching or health maintenance measures for patients to be discharged
3. Develop written home care plan with patients to be discharged
4. Develop teaching plans and conduct classes for groups of patients (such as diabetics or mastectomy patients)
5. Develop and implement a teaching plan for an individual patient
6. Give IPPB treatments
7. Perform passive range of motion exercises
8. Insert urethral catheters
9. Irrigate colostomy
10. Apply soaks or compresses
11. Feed patients by nasogastric or gastrostomy tube
12. Teach crutch walking

Itmes 1-5 of the list shown above are considered to be vital components of quality nursing care and should be the responsibility of the registered nurse. Items 6-12 are technical procedures and the lack of performance of them by registered nurses infers that they are delegating them to other members of the health care team when appropriate.

Another group of items was identified by baccalaureate nurses as not being performed frequently enough although their education had prepared them to carry out the responsibilities. These items were:

1. Develop and execute patient care plans
2. Include nursing objectives on care plans
3. Make patient referrals
4. Take a nursing history
5. Establish priorities for nursing care
6. Take a patient's physical history
7. Take a patient's psychosocial history

Many of the functions identified require independent judgement by nurses about nursing care actions. They often involve problems and concerns outside the scope of medical treatment but affect the patient's response to his illness. The limitation of the nurse's position to the execution of medical orders alone would eliminate a valuable resource for the improvement of patient care.

One suggested approach to the problems which would involve a cooperative effort between nursing service and nursing education would be the appointment of a nurse faculty member to the hospital Nursing Practice Committee. Members of the Committee would then have input upon which to base the outcomes of nursing care relative to education. In addition, alternative approaches to utilization of nurses could be developed which would maximize educational background.

Another area in which nurses identified inconsistencies in utilization was in being placed in positions for which their education had not prepared them. This occured when ADN graduates or LVN's were required to function as charge nurses or when new graduates of all three types of professional programs were expected to begin as head nurses. Although the emphasis on LVN educational programs is to prepare practitioners who can give bedside care under supervision, a survey of LVN practitioners indicated that 57 percent of 923 respondents were currently functioning as charge nurses. When asked if they had been required to assume responsibilities for which their education had not prepared them, 48 percent said "yes". Since registered nurses are frequently needed but not available in hospitals in small communities, this does not seem to be an unusual practice. In cases where the need for nurses is great and unprepared persons are placed in positions of responsibility, the Nursing Project Council is particularly concerned that employers make every effort to see that these nurses receive the preparation required for the job. The following is therefore submitted:

RECOMMENDATION: EMPLOYERS OF NURSING PERSONNEL ASSUME THE RESPONSIBILITY FOR PROVIDING ADDITIONAL LEARNING OPPORTUNITIES FOR THOSE WHOM THEY PROMOTE TO POSITIONS OF LEADERSHIP.

Clinical Research in Nursing

Employers and practitioners who are responsible for providing nursing services to the public should be vitally concerned about the effect of the variable of "nursing" on patient welfare. What does nursing accomplish and what potential difference can it make in the degree and speed of recovery,

the prevention of complications, and the psychological well-being of patients? Clinical research belongs in the hospital and health agency just as much as it belongs in educational institutions. In a summary of some recent efforts in clinical nursing research, Werley describes studies related to pressure sores, development of instruments to assess nursing care, relationship of patient instructions and patient response to treatment procedures and several others (65). From these examples she concludes that research is indeed focusing increasingly on nursing practice.

Large medical centers, in particular, provide excellent opportunities for clinical nursing research. Large numbers of patients make sampling procedures more valid and the existence of facilities for specialization in certain areas provide opportunities to study many patients with similar problems. While the availability of highly qualified nurse researchers is limited, many nurses with baccalaureate and master's degrees are prepared to undertake less complex research projects.

Nursing administrators are urged to incorporate a research effort into departments of nursing service as a method of validating the positive effects of nursing care and contributing to the unique body of knowledge of the nursing profession in the interest of promoting improved nursing care for patients.

Nurse Utilization and the Physician

It is apparent that some of the attitudes toward nursing education and nursing utilization are the result of a lack of knowledge concerning the various types of educational programs, their stated purposes, or their curriculum content. This was demonstrated in the Physicians Opinion Survey in several ways. Although many respondents had definite opinions on the type of graduate that was the "best" nurse, 46 percent (198 out of 430) indicated that in the hospital setting they seldom knew what type of programs the nurses had completed. In a question asking physicians to indicate which kinds of positions were most appropriate for graduates of the different programs, 12 percent of the respondents felt ADN graduates were best prepared for public health, a subject which is not included in most ADN programs. As judged by comments from this survey most physicians prefer the diploma graduate in most employment settings because of her greater clinical experience and her interest in patients. They indicated an appreciation of the leadership role and teaching abilities of the BSN but still preferred the diploma graduate for actual nursing responsibilities.

When asked about employment of nurses in doctors' offices, 52 percent stated that it was necessary to teach any new RN graduate skills which they believed should have been learned in nursing school. The skills referred to were frequently basic technical procedures. In responding to another question on the utilization of registered nurses in the physician's office, the majority were inclined to approve of using nurses in a somewhat expanded role. The survey, however, did not indicate how many were actually using nurses in these capacities. The listed functions and the physicians' responses are presented on the following page.

DO YOU ADVOCATE LETTING NURSES:	APPROVE	DISAPPROVE
1. Take health histories	64%	25%
2. Do health screening procedures	67%	20%
3. Counsel with patients about their treatment regimen, health maintenance, or rehabilitation techniques	67%	21%
4. Refer patients to community resources that would be supportive of your care and assist with health problems	64%	22%
5. Make home visits to check on routine evaluation of patients' status such as diet, dressing changes, BP's, discuss home adjustment problems	66%	20%
6. Conduct group teaching for such patients as diabetics, mastectomies, expectant parents, amputees, etc.	72%	14%

In a question asking if physicians would consider referring patients with certain health needs to an independent RN practitioner with either a master's or doctoral degree in nursing, 42 percent said "yes".

The Nursing Project Council expects that better understanding among the various health professions will result in better utilization of all those engaged in health care. In support of this the following is submitted.

RECOMMENDATION: THE NURSING PROJECT COUNCIL SUPPORTS THE STATEWIDE JOINT PRACTICE COMMISSION AND URGES THE ESTABLISHMENT OF LOCAL JOINT PRACTICE COMMITTEES AS A MEANS OF PROMOTING INTERDISCIPLINARY UNDERSTANDING AND MORE EFFECTIVELY PLANNING AND PROVIDING FOR NEEDED HEALTH SERVICES TO THE PUBLIC.

CHAPTER IV

NURSING EDUCATION

SECTION I

EXISTING NEEDS IN NURSING EDUCATION

Admission and Progression Policies

The responsibility of both public and private nursing programs is to produce practitioners capable of giving a high quality of nursing care. The public educational programs in particular have the added responsibility of using public tax money efficiently to meet the nursing manpower needs on a statewide basis. The problem of attrition in nursing programs is a factor which reduces the efficiency of a program in terms of production of graduates and utilization of faculty time. Many of the problems which lead to eventual attrition are directly related to admission criteria and policies affecting progression through the program. The following conditions illustrate some of the problems that can occur:

a. Students who are admitted to programs even though they do not demonstrate the potential ability to meet the requirements of the program, have wasted both time and money by the time they discover they cannot pass the courses.

b. Students who drop out during the first year of the professional program cause a reduction in the size of the second year class. If applicants have been more carefully screened, more would complete the program and be available for employment.

c. With the current severe shortage of qualified faculty members available for professional nursing programs, it is unfortunate that much faculty time is spent teaching students who will not complete the program and become practicing nurses.

Attrition and licensing examination failures in nursing programs can be reduced by improved counseling and admission criteria. The student in the basic program has to meet degree requirements and also to acquire knowledge to pass the licensing examination. Some are successful in mastering degree requirements but do not acquire sufficient knowledge and skills to pass the licensing examination.

A similar concern is the student who graduates and manages to pass the licensure examination only after taking the test several times. In such cases the quality of the practitioner is questionable. In Texas the problem is significant. Between 1971 and July of 1973 a total of 3,934 graduates of Texas nursing programs took the licensure examination for the first time. Of those, 808 or 20.5 percent of the total failed one or more sections of the examination and thus failed to gain licensure on their initial attempt. During the same period, failure rates for candidates repeating the examination varied from 30 percent to 71 percent. At the present time, when comparing the average test pool scores of students by states, Texas ranks 47th out of 52 states and jurisdictions. Since our projections indicate that Texas will soon be producing large numbers of professional nurses, the Council believes that the state needs to focus its attention on improving the quality of nursing graduates.

One of the prime indicators of the effectiveness of nursing education programs is the performance level of nursing program graduates on the State Board Test Pool (licensure) Examination. The extensive discussion of the foreign nurse graduate in Chapter III of this report makes it necessary that we present additional statistical data on the licensure examination performance for graduates of nursing programs in Texas. This is necessary because these graduates are products of our own educational system and the state is in a position to bring about the corrective changes. This study has recommended those changes elsewhere in this report.

In summary form, the table shown below provides the State Board licensure examination performance, by type of program, of our own graduates, from June of 1972 through June of 1973.

SUMMARY OF LICENSURE EXAMINATION
PERFORMANCE BY GRADUATES OF NURSING PROGRAMS IN TEXAS
1972-1973

Type of Program	Number Taking Examination	Number Passing	Number Failing	Percent Failing
ADN	873	579	294	34%
Dipl.	346	314	32	9%
BSN	591	493	98	17%
TOTALS	1,810	1,386	424	23%

In order to illustrate the results of the state licensure examination for graduates of nursing programs in Texas by individual program, the staff selected the 12 month period from June of 1972 through May of 1973, to show the number passing and failing, in each program. The examination is of five parts or sections and an applicant must pass each of the five to receive a license. The results of the examination for the sample period are shown on page 46.

Applicants for licensure who fail one or more parts of the examination are permitted to be re-examined over the parts in which an acceptable score was not achieved, for a maximum of three examinations.

The high failure rate of the ADN program graduates in particular, is attributable in part at least to the lack of appropriate screening of applicants. Other factors, such as the inadequacy of faculty preparation, are significant and we have addressed those factors in our faculty improvement recommendations. We submit that if the nursing programs will develop improved screening procedures, the level of achievement on the State Board licensure examination should increase.

RESULTS OF TEXAS STATE BOARD OF NURSE EXAMINERS
LICENSURE EXAMINATION FOR GRADUATES OF TEXAS NURSING PROGRAMS
JUNE, 1972 - MAY, 1973 (Series 672)

School	No. Taking Examination	Number of Sections Failed 1	2	3	4	5	Total No. Students Failing Examination
		ASSOCIATE DEGREE PROGRAMS					
1	36	4	1	0	0	0	5
2	39	4	3	1	1	1	10
3	39	4	3	2	4	0	13
4	66	7	7	6	2	3	25
5	46	4	2	0	1	2	9
6	32	2	1	0	0	0	3
7	18	3	1	0	0	1	5
8	27	3	2	1	0	0	6
9	27	3	3	0	1	2	9
10	19	4	1	2	1	3	11
11	23	2	2	1	0	2	7
12	19	3	0	2	0	0	5
13	49	6	3	4	4	0	17
14	49	4	0	0	0	1	5
15	36	8	4	2	2	3	19
16	47	9	6	4	1	0	20
17	81	11	8	3	3	1	26
18	53	6	2	1	1	0	10
19	38	0	6	4	2	2	14
20	129	11	10	18	13	23	75
		DIPLOMA PROGRAMS					
1	25	1	1	1	0	0	3
2	25	0	1	0	0	0	1
3	32	1	0	0	0	0	1
4	29	1	0	0	1	0	2
5	28	2	0	2	1	0	5
6	85	4	0	0	0	0	4
7	17	1	1	0	0	0	2
8	37	4	1	3	0	1	9
9	32	1	0	0	1	0	2
10	36	3	0	0	0	0	3
		BACCALAUREATE PROGRAMS					
1	39	7	4	3	0	0	14
2	20	3	5	1	1	3	13
3	43	0	0	0	0	0	0
4	27	2	2	2	0	1	7
5	45	4	1	0	0	0	5
6	212	15	7	5	5	1	33
7	5	0	0	0	0	0	0
8	61	4	2	1	0	0	7
9	24	2	2	2	1	0	7
10	115	7	2	1	2	0	12

With the objective of the improvement of quality in nursing education, the Council submits the following:

RECOMMENDATION: NURSING PROGRAMS IDENTIFY, VALIDATE AND UTILIZE ADMISSION AND PROGRESSION CRITERIA WHICH CAN SERVE AS RELIABLE INDICATORS OF AN APPLICANT'S ABILITY TO SUCCESSFULLY COMPLETE THE PROGRAM.

Clinical Experience

Throughout the studies conducted by the Nursing Project there was general agreement among practicing nurses, students, physicians, and employers that within professional nursing education programs there needs to be a greater emphasis on technical treatment procedures and clinical experience in acute care settings. There is no desire on the part of the Council to minimize the importance of theoretical foundations in nursing and principles which allow graduates to meet the demands of a rapidly changing practice. However, the Council believes that such agreement is not without justification and that professional nursing programs need to re-evaluate their curriculums in terms of both total time spent in the acute care clinical setting and the utilization of that time to assure that their graduates are prepared to assume the responsibilities required of staff nurses in the majority of acute care institutions.

The instrument used in the Project's Hospital Utilization Survey contained a list of 76 functions considered appropriate for nurses in the hospital setting. The nurses were asked to indicate whether or not they were prepared in their educational program to carry out the function and if they had actually done so in practice. The results showed that the graduates of professional nursing programs were frequently called upon to carry out functions for which they were not prepared. For example, the graduates of baccalaureate nursing programs listed 23 items, graduates of associate degree programs listed 40, and the diploma graduates listed 26 functions which they were called upon to perform but for which they felt unprepared. The high number of items for ADN's (40) reflects the practice of using this type nurse in leadership positions and in management and planning roles which are not emphasized in that type educational program. Despite this qualification, some of those items listed by the ADN graduates were technical procedures that would be expected of the graduate of this type program.

In a survey of 1,183 registered nurses, selected at random from active RN's in Texas, 21 percent stated that they were required to perform functions in the first professional position they had held for which they were not adequately prepared. They identified 63 percent of the functions as "procedure techniques" and 24 percent as "leadership and management of personnel."

A similar question in the Hospital Utilization Survey is given below with the responses reported to the staff:

Survey Question:

In your first position as a licensed nurse did your job require you to perform procedures or assume responsibilities for which your education had not prepared you:

	Percent Answering "Yes"
LVN	33%
Dipl.	39%
ADN	61%
BSN	46%

If you answered "yes" to the previous question, please specify the types of activities for which you felt unprepared.

	LVN	Dipl.	ADN	BSN
Supervision	16.0%	23.0%	33.3%	18.8%
Assisting Physicians	4.9%	0.0%	2.1%	1.6%
Teaching Patients	1.2%	0.0%	0.0%	1.6%
Clinical Skills	63.2%	70.5%	45.8%	71.9%
Communication with Patients, Doctors, Administrators, etc.	2.5%	0.0%	2.1%	0.0%
Planning Patient Care (Nursing Diagnosis)	1.2%	0.0%	2.1%	0.0%
Coping with Emotional or Social Needs	0.6%	0.0%	0.0%	0.0%
Other	10.4%	6.6%	14.6%	6.3%

In a survey of 580 (25 percent of all) senior students enrolled in professional nursing programs in Texas the responses to items concerning clinical experience were as follows:

	Diploma (agree)	ADN (agree)	BSN (agree)
1. Clinical experience is sufficient in length to master most technical procedures.	80%	38%	32%
2. Clinical experience provides adequate opportunity to apply nursing theory under realistic conditions.	89%	55%	51%
3. Clinical experiences are usually related to theory being presented in class.	83%	58%	45%
4. In clinical lab, the student is accepted by the regular staff as a member of the nursing team.	77%	44%	45%

In the survey of 1,183 practicing RN's on the adequacy of present educational programs in nursing, the Nursing Project discovered a sharp difference of opinion on adequacy, as shown in the responses to the following question:

"Assuming a normal orientation of the unique aspects of a particular institution or agency, do you believe current professional nursing education has adequately prepared the new graduate?"

	Yes	No	No Response
a. Diploma program graduates	66%	15%	20%
b. Associate Degree program graduates	30%	47%	23%
c. Baccalaureate program graduates	42%	36%	22%

In 1971-72, 64.09 percent of employed RN's in Texas were working in hospitals. In the survey of students enrolled in professional nursing programs, 94.4 percent of diploma students, 89.2 percent of ADN students, and 84.4 percent of BSN students indicated a preference for practice in hospitals. Although increasing numbers of both RN's and LVN's are working in other areas, hospitals will continue to employ the greatest percentage of graduates in the immediate future. For this reason the Council recommends:

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS PLACE AN INCREASED EMPHASIS ON CLINICAL EXPERIENCES WHICH MORE REALISTICALLY SIMULATE THE RESPONSIBILITIES WHICH THE NEW GRADUATES WILL BE REQUIRED TO ASSUME AS STAFF NURSES IN THE MAJORITY OF ACUTE CARE INSTITUTIONS.

With the rapidly expanding body of knowledge in medicine and nursing it has become impossible for any one nurse to be highly skilled in all areas of nursing practice. By the time students have completed basic nursing courses in the major areas of practice, they often have a definite preference for one or two and plan to work in those areas after graduation. Such areas of practice may include medical-surgical nursing, maternal-child health, psychiatry, geriatrics, rehabilitation or any number of other special areas such as neurosurgical nursing, or cardiac intensive care. In keeping with education practices in other professional fields it would seem appropriate to allow students to choose an elective based on a particular area of interest in order to develop a greater degree of competence than would otherwise be achieved. From another viewpoint students could use an elective as an opportunity to strengthen their skills in areas where they feel they need to improve. A clinical elective emphasizing extensive participation in patient care over an entire shift could provide a student with a preview of actual job demands in which she would not normally be involved prior to experience as an RN. So that this opportunity may be provided, the Council recommends:

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS PROVIDE A NURSING ELECTIVE IN WHICH THE STUDENT MAY CHOOSE AN AREA OF CLINICAL PRACTICE AND PARTICIPATE IN A PERIOD OF INTENSIVE CLINICAL EXPERIENCE UNDER THE SUPERVISION OF A FACULTY MEMBER OR A PRACTICING NURSE WORKING IN THE AREA WHO MEETS THE QUALIFICATIONS OF THE PROGRAM.

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS SHOULD PLACE INCREASED EMPHASIS ON MANAGEMENT CONCEPTS IN THE ORGANIZATION AND DELIVERY OF PATIENT CARE AND SUPERVISION OF PERSONNEL IN THE CLINICAL SETTING.

Rural Experience in Professional Nursing Programs

The problem of shortages of professional nurses working in rural areas emphasizes the need for nursing programs to stimulate interest in this area. There appears to be a tendency for nurses to prefer working in settings similar to those in which they received educational experience and for this reason the small community setting should be promoted as an area of practice which offers the professional nurse an opportunity to exercise judgment and utilize a broad range of skills and knowledge. For example, in small hospitals there is less likely to be a resident physician staff. In potential or actual emergency situations the nurse must be prepared to make decisions and take actions that would not be required in a large medical center with access to a physician.

In addition, smaller hospitals are less likely to have extensive supportive services such as respiratory therapy departments, rehabilitation units or social workers. The professional nurse in this setting may be required to do many technical procedures or provide certain types of nursing services that would normally be performed by special departments in large facilities. Such demands can prove to be extremely rewarding when the nurse can see the results of planning, teaching and nursing intervention which she has accomplished. Some programs have been incorporating such experiences into their curriculum with apparently good results.

The Council therefore submits the following:

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS OFFER CLINICAL EXPERIENCE IN SMALL HOSPITALS EITHER AS A PART OF A CURRENT COURSE OR AN ELECTIVE IN RURAL HEALTH CARE.

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS AND SUBURBAN AND RURAL HOSPITALS AND HEALTH AGENCIES, WITHIN A REASONABLE DISTANCE OF THE SCHOOL, ENTER INTO JOINT APPOINTMENTS OF QUALIFIED NURSES WHO CAN SUPERVISE, TEACH, AND EVALUATE STUDENT EXPERIENCES IN THE SMALL HOSPITAL.

The recommendation that nursing programs utilize joint appointments in rural experiences is intended to meet two needs in particular. With a portion of the salary of a nurse being paid by an educational program, smaller hospitals would have a better opportunity to recruit a staff member with advanced educational preparation. In such an arrangement the joint appointee would work as a staff member when no students were receiving clinical experience and as a

faculty member during the period of their rural elective course. This would eliminate the need for a full time faculty member to travel back and forth and would provide qualified supervision by an individual familiar with the clinical laboratory and the community.

Geriatrics

The need for registered nurses in nursing homes has been presented in a previous chapter. In addition, with the increasing number of older people receiving health care in hospitals, clinics, and offices there is a need for nurses with special preparation in geriatrics to work in many job settings. Because of the complexity of the health problems of older people, they offer a tremendous challenge to registered nurses to use their professional knowledge to its full extent. The current emphasis of baccalaureate programs on skills in assessment, planning and therapeutic nursing intervention is expecially important when working with older people. The Council therefore submits the following:

RECOMMENDATION: ALL SCHOOLS OF PROFESSIONAL NURSING TAKE POSITIVE STEPS TO MAKE THE FIELD OF GERIATRICS MORE STIMULATING AND CHALLENGING TO THE STUDENT BY:

A. EMPHASIZING THE CONCEPTS OF GERIATRIC NURSING TO A GREATER DEGREE THROUGHOUT THE CURRICULUM AND INCLUDING A MINIMUM OF FOUR SEMESTER CREDIT HOURS, OR ITS EQUIVALENT, OF SPECIFIC GERIATRIC CONTENT IN BACCALAUREATE PROGRAMS AND TWO SEMESTER CREDIT HOURS, OR ITS EQUIVALENT, IN ASSOCIATE DEGREE AND DIPLOMA PROGRAMS.

B. ACTIVELY RECRUITING FACULTY WITH SPECIAL PREPARATION AND/OR SPECIAL INTEREST IN GERIATRICS AND PROVIDING OPPORTUNITIES FOR FACULTY DEVELOPMENT IN THE AREA OF GERIATRICS.

C. OFFERING ELECTIVES IN THE FIELD OF GERIATRICS AT BOTH THE UNDERGRADUATE AND GRADUATE LEVELS.

D. FOSTERING A MORE POSITIVE IMAGE OF THE FIELD OF GERIATRICS BY INVOLVING STUDENTS TO A GREATER DEGREE IN THE HEALTH CARE OF OLDER PEOPLE WHO ARE NOT ILL AND WHO CONTINUE TO ACTIVELY CONTRIBUTE TO THE SOCIETY.

E. UTILIZING NURSING HOMES TO A GREATER DEGREE AS A LABORATORY SETTING FOR DEVELOPING ADVANCED SKILLS IN ASSESSMENT, PLANNING AND EVALUATION OF HEALTH PROBLEMS.

Curriculum Evaluation

It is the belief of the Council that identification of the essential components of professional nursing education should be the result of collaborative efforts between nursing educators and clinical practitioners. One approach to this is through joint appointments. In a description of the effective use of joint appointments between the University Hospitals of Cleveland and Frances Payne Bolton School of Nursing, Case Western Reserve University, Pierik points out the benefits of such arrangements (43). With the school of nursing providing academic leadership in the patient care setting, the expected results of the collaborative relationship would: 1) raise the quality of patient care to a high degree of excellence; 2) enhance the learning climate for both nursing students and staff, and 3) foster the development of significant research in clinical nursing. In addition to these advantages, schools of professional nursing benefit by having faculty members: 1) who are engaged in clinical practice and have the opportunity to keep their skills up to date, 2) who can serve as role models to both students and staff, and 3) who, as employees of hospitals or other agencies, can provide learning experiences for students which will be consistent with the demands they will face as registered nurses. With cooperative relationships of this nature the development of the curriculum of a nursing program will be based on patient needs and determined by input from all who are concerned about preparing nurses to give quality care.

The Council therefore submits the following:

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS AND HEALTH CARE INSTITUTIONS AND AGENCIES IMMEDIATELY BEGIN WORKING TOGETHER TO ESTABLISH JOINT APPOINTMENTS IN CLINICAL AREAS.

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS PROVIDE AN OPPORTUNITY FOR THE SERVICE SECTOR TO HAVE INPUT INTO THE EDUCATIONAL PROCESS BY APPOINTING QUALIFIED NURSING REPRESENTATIVES OF HEALTH CARE AGENCIES OR INSTITUTIONS TO SERVE AS MEMBERS OF CURRICULUM COMMITTEES.

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS ASSUME THE RESPONSIBILITY FOR EVALUATING THE PROFESSIONAL PERFORMANCE OF THEIR GRADUATES, BASED ON INPUT FROM BOTH THE PRACTICING NURSE AND THE EMPLOYER, AND USE THE RESULTING INFORMATION AS ONE BASIS FOR IDENTIFYING NEEDED CURRICULUM REVISIONS.

Interdisciplinary Collaboration

Leininger points out that "many of our health care delivery problems today are related to a lack of understanding and appreciation for the actual and potential contributions of different health disciplines" (26). This situation was apparent in the results of the Physician Opinion Survey in which a significant number of physicians commented on their unfamiliarity with the

nursing education process. Similarly, physicians who have entered into collaborative professional practice with qualified nurse practitioners have expressed their satisfaction at the resulting improvement in the quality of health care provided (25). If such interdisciplinary collaboration is to become a commonly accepted practice, its value needs to be taught and experienced at the student level. During the late 1950's and 1960's the trend in nursing education was to get away from previous practices of having a major proportion of classroom lectures delivered by physicians. Since nursing is a separate discipline with its own unique body of knowledge it is appropriate that nurses teach nursing. However, the trend served to exclude physicians almost entirely from participation in nursing education. As a result, physicians are unaware of the changes and improvements that have taken place in the educational process since that time and do not have the opportunity to be made aware of them.

Therefore, the Council submits the following:

RECOMMENDATION: PROFESSIONAL NURSING EDUCATION PROGRAMS INVOLVE PRACTICING PHYSICIANS TO A GREATER EXTENT IN BOTH THE DIDACTIC AND CLINICAL ASPECTS OF NURSING EDUCATION. UTILIZATION OF PHYSICIANS SHOULD BE ON A PLANNED BASIS AND SHOULD EMPHASIZE THE PHYSICIAN'S EDUCATION AND EXPERIENCE IN PATHOPHYSIOLOGY, DIAGNOSIS, AND TREATMENT, ESPECIALLY IN THE PREPARATION OF NURSES TO FUNCTION IN PRIMARY CARE SETTINGS.

RECOMMENDATION: SCHOOLS OF MEDICINE INVOLVE PRACTICING NURSES TO A GREATER EXTENT IN BOTH THE DIDACTIC AND CLINICAL ASPECTS OF MEDICAL EDUCATION. UTILIZATION OF NURSES SHOULD BE ON A PLANNED BASIS AND EMPHASIZE THE NURSE'S EDUCATION AND EXPERIENCE IN SUCH AREAS AS THE RESPONSE OF INDIVIDUALS AND FAMILIES TO ILLNESS, AND NURSING THERAPIES WHICH CAN SUPPLEMENT MEDICAL CARE.

RECOMMENDATION: MEDICAL AND NURSING EDUCATIONAL PROGRAMS ENCOURAGE INTERACTION OF THE TWO PROFESSIONS, WHEN APPROPRIATE, AT THE STUDENT LEVEL THROUGH SUCH ACTIVITIES AS CLASSES, ROUNDS, AND CLINICAL COLLABORATION.

RECOMMENDATION: PROFESSIONAL NURSING PROGRAMS PROVIDE PLANNED CLINICAL EXPERIENCE IN PHYSICIANS' OFFICES WITH ONE OF THE OBJECTIVES BEING TO PROVIDE AN OPPORTUNITY FOR PHYSICIANS, NURSING FACULTY, NURSING PERSONNEL, AND STUDENTS TO EXCHANGE IDEAS AND EXPERIENCE WITH METHODS OF INTERDISCIPLINARY COLLABORATION IN THE OFFICE SETTING.

Career Mobility

The unusually high level of geographic mobility of today's population, plus the increasing percentage of married students enrolled in nursing programs combine to create a condition that makes it increasingly important to develop ways to promote educational mobility from one institution to another without unnecessary loss of time or credit to the student. In addition, there are

significant numbers of individuals who are interested in vertical career mobility who find themselves faced with frustrating barriers.

The extent of the desire for further education was demonstrated in responses from LVN's, professional nursing students and RN and LVN practitioners who were surveyed by the Nursing Project.

In May of 1972, 379 LVN's were enrolled in professional nursing programs. Of these, 58 were enrolled in diploma programs, 277 in ADN programs, and 44 in BSN programs. In one of the associate degree programs, LVN's accounted for 32 percent of the program's enrollment. In eleven other ADN programs, the number of LVN's enrolled ranged from 14 to 23 percent. LVN's in BSN programs accounted for from 1 to 8 percent of the total enrollment of individual programs.

Of the 58 LVN's enrolled in diploma programs, 74 percent indicated that they planned to work toward a baccalaureate or higher degree at a later date. Of the 277 LVN's enrolled in ADN programs, 66 percent indicated similar goals. Of the 44 LVN's in BSN programs, 73 percent indicated a desire to obtain a master's or higher degree. It should be pointed out that the actual number of persons expected to attain such goals is considerably lower. However, a high level of interest is present. If the problems of transfer of credit from one type of program to another could be satisfactorily resolved, it is quite likely that there would be a significant increase in the number of individuals attempting vertical career mobility in nursing.

Over two-thirds (nearly 67%) of professional nursing students surveyed indicated plans for further education beyond their present level. The percentage of students in each type of program indicating plans for educational advancement is as follows:

	Percent	Number
Diploma	82.89%	627 of 757
Associate Degree	71.86%	1,325 of 1,845
Baccalaureate	59.66%	1,135 of 1,902

Thus, regardless of their present level of education, the majority of students plan to advance their educational preparation. The highest level of planned education attainment by all students is as follows:

	Percent
Diploma	3.40%
Associate Degree	11.28%
Baccalaureate	46.18%
Master's	32.37%
Doctorate	4.91%
No Degree	1.87%

The highest education level desired by type of program is shown in the chart below.

HIGHEST EDUCATIONAL OBJECTIVE AS REPORTED
BY STUDENTS IN PROFESSIONAL NURSING PROGRAMS

1972

Student's Present Program	Diploma	Associate Degree	Baccalaureate	Master's	Doctorate
Diploma	17%	1%	60%	19%	3%
Associate Degree	1%	27%	47%	18%	4%
Baccalaureate	---	---	40%	52%	7%

The second type of mobility which creates problems of transfer of credits is movement of students from one college to another. The charts on page 56 indicate the extent to which students change schools but do not indicate the length of time attended or the major of the student. Some of the figures can be explained to some degree. For example, a number of baccalaureate nursing programs provide all courses in the nursing major during the junior and senior years. This allows students to take required general education courses at any college or university that offers the preprofessional curriculum and then transfer to the college offering the nursing degree for the last two years. All diploma programs require one year of college work. This accounts for the high percentage of students who responded that they had attended "one other college". There are still significant numbers of students who attend two, three or four institutions during the course of earning a degree. When transfer of nursing courses is involved, it frequently becomes difficult to determine whether the conteht of courses with similar names is the same in all schools.

One potential solution to this problem is the development of a curriculum which is specifically planned to articulate the current types of nursing programs. Such a curriculum would proceed from simple to complex nursing skills and would eliminate repetition of material already learned at a previous level. Such a curriculum is designed to allow a student the option of leaving the program at any of several points with preparation for licensure either as an LVN or RN. If a student chose to reenter the program at a later date she would receive full credit for work completed and could continue the program without loss of time or credit. This plan is referred to as a multiple entry and exit curriculum. Such a curriculum, if planned to incorporate sufficient flexibility to allow for individuality and experimentation, could be adopted by many schools for the purpose of facilitating inter-institutional transfers and promoting opportunities for vertical career mobility. The Council supports this concept as evidenced in later recommendations.

BACCALAUREATE PROGRAMS - COLLEGE MOBILITY

School	No. of Texas Schools Previously Attended	Responses Indicating Previous Attendance at a College with a Nursing Program	No. Who Attended At Least One Other College		No. Who Attended Two Other Colleges		No. Who Attended Three Other Colleges		No. of Respondents
			No.	%	No.	%	No.	%	
UT Austin	27	20	31	45.6	15	22.1	3	4.4	68
M-H Baylor	24	14	30	46.2	13	20.0	4	6.2	65
Baylor	40	37	59	40.7	33	22.8	7	4.8	145
Dallas Baptist	21	10	20	43.5	7	15.2	1	2.2	46
TWU Denton	60	52	117	26.9	22	5.1	6	1.4	435
TCU	42	69	94	38.4	44	18.0	14	5.7	245
UT Galveston	31	23 UTA + 20	62	87.3	41	57.7	16	22.5	71
Dominican	25	11	36	33.3	11	10.2	2	1.9	108
Houston Baptist	25	15	44	50.6	16	18.4	2	2.3	87
Prairie View	8	3	9	20.0	4	8.9	0	-	45
TWU Dallas	45	52	72	31.7	33	14.5	15	6.6	227
TWU Houston	23	12	33	10.5	8	2.6	1	-	313
Incarnate Word	25	55	48	41.4	26	22.4	5	4.3	116
UT San Antonio	48	27 UTA + 71	93	87.7	57	53.8	27	25.5	106
TOTAL			748	36.0	269	13.0	103	5.0	2,077

ADN PROGRAMS - COLLEGE MOBILITY

Alvin	30	27	72	46.5	34	21.9	9	5.8	155
Amarillo	17	5	27	30.7	7	8.0	2	2.3	88
Del Mar	17	15	22	19.1	6	5.2	4	3.5	115
El Centro	38	25	59	32.6	21	11.6	7	3.9	181
Grayson County	20	9	36	29.8	8	6.6	4	3.3	121
Pan American	12	5	13	13.7	6	6.3	1	1.1	95
Tarrant County	22	18	23	26.1	9	10.2	3	3.4	88
Galveston College	29	15	44	41.9	18	17.1	3	2.9	105
Kilgore	9	6	11	29.7	2	5.4	0	-	37
Central Texas	7	2	5	9.3	3	5.6	0	-	54
Laredo	1	1	1	2.2	0	-	0	-	45
Angelina	13	6	24	40.7	6	10.2	2	3.4	59
Odessa	19	10	18	28.6	8	12.7	4	6.3	63
Paris	8	5	14	38.9	2	5.6	1	2.8	36
San Jacinto	15	8	17	18.1	5	5.3	2	2.1	94
Angelo State	18	8	12	13.0	5	5.4	3	3.3	92
San Antonio	17	8	22	16.9	8	6.2	0	-	130
Texarkana	20	3	21	27.3	6	7.8	2	2.6	77
McLennan	32	19	35	29.4	17	14.3	4	3.4	119
Midwestern	16	5	18	19.8	6	6.6	0	-	91
TOTAL			494	26.8	177	9.6	51	2.8	1,845

DIPLOMA PROGRAMS - COLLEGE MOBILITY

Hendrick	22	9	43	84.3	15	29.4	4	7.8	51
Northwest Texas	23	144	116	75.8	72	47.1	17	11.1	153
Brackenridge	21	52	45	77.6	23	39.7	6	10.1	58
Baptist - Beaumont	11	6	48	94.1	11	21.6	2	3.9	51
Hotel Dieu	7	2	54	61.4	11	12.5	2	2.3	88
John Peter Smith	21	57	63	86.3	23	31.5	13	17.8	73
Hermann	22	22	58	82.9	22	31.4	8	11.4	70
Methodist - Lubbock	20	10	67	88.2	26	34.2	10	13.2	76
Baptist - S.A.	8	44	40	83.3	10	20.8	4	8.3	48
Texas Eastern	18	13	46	51.7	14	15.7	2	2.2	89
TOTAL			580	76.6	227	30.0	68	9.0	757

Availability of Faculty

The seriousness of the current nursing faculty shortage in the United States was pointed out in a recent Southern Regional Education Board publication Nursing Education in the South: 1973. In a discussion of program quality of nursing programs in the 15 states holding membership in SREB, the following facts were presented:

1. Although the master's degree is considered a requirement for teaching, only 43.6 percent of present nursing faculty hold the degree.

2. Fifty-four percent of nursing faculty members are not educationally prepared if the criterion is a graduate degree.

3. Southern ADN and BSN programs reported 227 budgeted faculty positions vacant in 1973.

4. Against these odds new nursing programs are opening at the rate of one a week.

Texas is currently facing a similar condition where, despite the present shortage of qualified faculty, there is pressure to open more nursing programs. In the spring of 1973, the Board of Nurse Examiners reported 47 unfilled faculty positions in Texas nursing programs. The level of faculty educational preparation in Texas programs is presented below in comparison with the United States.

FACULTY PREPARATION IN PROFESSIONAL NURSING PROGRAMS - 1973

Employing Programs	Percent Holding Diploma		Percent Holding Baccalaureate		Percent Holding Master's		Percent Holding Doctorate	
	U.S.	Texas	U.S.	Texas	U.S.	Texas	U.S.	Texas
Diploma	23.6%	18%	57.7%	64%	17.9%	18%	.2%	.0%
Associate Degree	1.4	0	38.5	64	58.7	34	.4	1.5
Baccalaureate	.4	0	14.0	14	79.1	82	6.2	4.0

Although nursing programs in Texas and other states have too few faculty members with graduate degrees, the type of program in Texas which is in greatest need of faculty holding at least the master's degree is at the associate degree level. Very few of the ADN programs are located near graduate programs in nursing and it is difficult to pursue the degree while teaching full time. Since 64 percent of faculty in diploma and ADN programs do not hold the graduate degree, it is urgent that alternatives be provided to the traditional process of all graduate work in nursing be taken in residence.

The level of the degrees held by nursing faculty is an important criterion for measuring faculty quality, but it is not the only criterion. Experience and ability in teaching, practice experience, especially clinical practice experience, are also of vital importance. In the interest of promoting improved faculty qualifications, the Council supports the following recommendations:

RECOMMENDATION: NURSING PROGRAMS REQUIRE THAT FACULTY WHO DO NOT HOLD AT LEAST THE MASTER'S DEGREE ENTER A GRADUATE PROGRAM WITHIN 12 MONTHS AFTER BEGINNING EMPLOYMENT AND COMPLETE THE MASTER'S DEGREE WITHIN SIX YEARS OF THE DATE OF BEGINNING EMPLOYMENT.

RECOMMENDATION: AS RECOMMENDED BY THE BOARD OF NURSE EXAMINERS, FACULTY MEMBERS WITH MASTER'S DEGREES IN NON-NURSING MAJORS SHOULD HAVE A MINIMUM SIX SEMESTER HOURS OF GRADUATE LEVEL CONTENT IN NURSING.

RECOMMENDATION: NURSING PROGRAMS AND EMPLOYERS OF NURSES ESTABLISH A PROCESS UNDER WHICH NURSING FACULTY WOULD PRACTICE IN THE CLINICAL SETTING EACH YEAR. AT LEAST 10 PERCENT OF THE TIME NORMALLY SPENT IN CLINICAL INSTRUCTION SHOULD BE THE MINIMUM FOR THIS CLINICAL PRACTICE BY FACULTY.

The intent of the Council in these recommendations is to improve faculty educational levels and to increase the clinical practice capabilities of nursing faculty.

Graduate Education

Over the past several years there has been an increasing demand for graduate education in nursing. The two graduate programs in Texas reflect this in the graduation statistics illustrated on the chart shown below.

NUMBER OF GRADUATES FROM TEXAS PROGRAMS OFFERING THE MASTER'S DEGREE IN NURSING

	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
The University of Texas	4	3	6	10	27	82
Texas Woman's University	4	17	24	35	57	66
Total	8	20	30	45	84	148

Both of the graduate programs are increasing the number of locations where graduate courses are available but there is still a need that is not being met. As indicated above, there are many faculty members of basic nursing programs who are not prepared at the master's level. Many would like to work toward the degree but are unable to move to a city offering graduate work. At the present time the Council feels that the priority need in nursing education in Texas is for qualified faculty in basic professional programs and therefore submits the following:

RECOMMENDATION: EXISTING GRADUATE PROGRAMS IN NURSING PLACE A SPECIAL EMPHASIS ON THE PREPARATION OF NURSING FACULTY IN THE FOLLOWING WAYS:

A. OFFER OFF-CAMPUS COURSES FOR CREDIT PRIMARILY FOR FACULTY MEMBERS OF NURSING PROGRAMS WHO COULD NOT OTHERWISE PARTICIPATE IN A PROGRAM ON AN EXISTING GRADUATE CAMPUS. SUCH COURSES COULD RECEIVE PARTIAL FUNDING THROUGH MONIES APPROPRIATED TO THE COORDINATING BOARD FOR THE PURPOSE OF FACULTY IMPROVEMENT.

B. OFFER A SERIES OF SUMMER COURSES ON EXISTING GRADUATE CAMPUSES FOR FACULTY MEMBERS IN SCHOOLS OF NURSING WHO NEED ADDITIONAL PREPARATION FOR TEACHING. SUCH COURSES SHOULD EMPHASIZE CURRICULUM DESIGN, COURSE CONSTRUCTION, TEST CONSTRUCTION, PERFORMANCE EVALUATION, INSTRUCTIONAL METHODOLOGY, TEACHING RESOURCES, PRACTICE TEACHING, AND ADVANCEMENT OF CLINICAL KNOWLEDGE AND SKILLS.

C. PLAN TO EXTEND GRADUATE COURSES INTO REGIONS WHICH CAN DEMONSTRATE A CONTINUING NEED.

D. GRADUATE PROGRAMS OFFER MAJORS WHICH PLACE EQUAL EMPHASIS ON CLINICAL AND NON-CLINICAL AREAS FOR THOSE WHO PLAN TO ENTER TEACHING.

E. PROVIDE APPROPRIATE RESEARCH TRAINING WITH PARTICULAR EMPHASIS ON EVALUATION TECHNIQUES.

In addition to these recommendations to provide basic access to graduate work in nursing, with emphasis on meeting the needs of new and existing nursing faculty, the Nursing Project encourages the graduate programs to utilize all appropriate resources to meet those needs and therefore submits these recommendations:

RECOMMENDATION: A. BACCALAUREATE NURSING PROGRAMS WITH FACULTY PREPARED AT THE DOCTORAL LEVEL SHOULD EXPLORE WITH EXISTING GRADUATE PROGRAMS THE POSSIBILITY OF OFFERING GRADUATE LEVEL NURSING COURSES WHICH WILL TRANSFER TO THE GRADUATE PROGRAMS.

B. EXPLORE CONSORTIUM ARRANGEMENTS AND SHARED FACULTY APPOINTMENTS AMONG NURSING PROGRAMS TO PROVIDE GRADUATE COURSES FOR STUDENTS WHO CANNOT PARTICIPATE AS RESIDENT STUDENTS.

With the need for additional clinical experience for both students and faculty, as recommended in various parts of this report, the Nursing Project advocates clinical practice prior to admission to graduate school, as stated here:

RECOMMENDATION: GRADUATES OF PROFESSIONAL NURSING PROGRAMS BE ENCOURAGED TO HAVE AT LEAST ONE YEAR OF CLINICAL EXPERIENCE BEFORE SEEKING ADMISSION TO A GRADUATE PROGRAM IN NURSING.

Preparation of Faculty for ADN Programs

With a deficiency in qualified faculty having been identified by the Nursing Project as the most critical problem facing nursing education, it is incumbent that graduate programs in nursing move to meet the challenge. As shown above, the production of master's degrees has increased from eight in 1967 to 148 in 1973, but the deficiency remains. Only an estimated 40 to 60 percent of master's degree students plan to teach. The others elect other majors, such as clinical specialties or administration.

The ADN program was conceived to produce highly specialized "technical" nurses or bedside specialists. In the employment setting, this unique identity tends to disappear. The ADN graduate, even if educated as a "technical" nurse, is given additional responsibilities when she accepts employment, usually because she is the best qualified nurse available.

The ADN program is usually located in a community college or small university, draws its students, who are usually older than students in other professional programs, from the geographic service area of the college.

For those who prepare ADN faculty, an awareness of the mission of the community college and the ADN graduate is a necessity; the graduate faculty must realize that teaching in the community college is quite different from the large metropolitan university.

At the present time graduate programs do not appear to emphasize preparation for teaching in specific types of basic nursing programs. It is necessary that graduate programs in nursing, who form the only supply source for ADN faculty, offer a course relating to the particular needs of those who teach in the ADN programs. In order to enrich this experience, practice teaching in an ADN program should be made available to the student.

So that the faculty of ADN and diploma programs may have their needs met in the graduate programs in nursing education, the Nursing Project Council recommends:

RECOMMENDATION: AS A MEANS OF MEETING CURRENT FACULTY NEEDS, PARTICULARLY IN ASSOCIATE DEGREE AND DIPLOMA NURSING PROGRAMS, GRADUATE PROGRAMS OFFERING A MAJOR IN NURSING EDUCATION SHOULD EMPHASIZE THE DEVELOPMENT OF CLINICAL GENERALISTS WHO HAVE SOME ADDITIONAL PREPARATION IN TWO OR MORE OF THE MAJOR CLINICAL AREAS OF NURSING (MEDICAL, SURGICAL, MATERNAL-CHILD, PSYCHIATRY).

Graduate Education and Leadership Positions in Nursing

The current trend in nursing is for the baccalaureate degree to be the minimum professional requirement for nurses in leadership positions and for the master's degree to be the minimum professional requirement for supervisory and administrative responsibilities, especially in the more sophisticated and complex health care facilities.

The Project staff tabulated the number of degrees held by nurses in each region and recorded the level of those degrees. We identified the number of nurses holding supervisory, administrative, and instructional positions and constructed the chart on page 63 so that we could compare the number of degrees held, by level, in each region with the number of positions requiring those degree levels. While these data display the numbers in each category, we were not able to determine if the persons having the degrees were employed in the positions requiring those degrees.

The chart, therefore, shows only the number of BSN's and MSN's held by nurses, by region, and it also shows the greater number of positions which are filled by nurses who obviously do not have the degree requirement under the current trend.

In addition to illustrating this deficiency of qualifications in positions of greater responsibilities, the chart displays the concentration of the graduate degree nurses in the regions of the state having most of the major health care facilities and population. These same regions also have concentrations of nursing programs whose faculties are included in this tabulation.

Although the Council did not feel that the need for increased preparation of nurses in leadership was the first priority need in the state, the need is severe. It was the belief of the Council that graduate programs should make every effort to increase course offerings in this major area.

Vocational Nursing

One of the fundamental beliefs of the members of the Nursing Project Council was that the quality of nursing care in this state needs to improve in all locations, regions and employment settings. This belief guided the several task forces in their work and was a factor in most of the surveys conducted by the staff.

BEST COPY AVAILABLE

THE NUMBER AND PERCENT OF BSN AND MSN DEGREE NURSES IN EACH PLANNING REGION COMPARED TO THE NUMBER OF LEADERSHIP POSITIONS REQUIRING THOSE DEGREES
1971 - 1972

	B.S.N.*		M.S.N.*		Admin.		Super.		Instruct.	
	#	%	#	%	#	%	#	%	#	%
1. Panhandle	70	8.06	8	.92	45	5.18	120	13.80	53	6.10
2. South Plains	62	10.15	3	.49	32	5.24	141	23.08	24	3.93
3. North Texas	34	7.41	8	1.74	32	6.97	92	20.84	25	5.45
4. North Central Texas	1150	18.24	115	1.82	298	4.73	943	14.96	265	4.20
5. North East Texas	32	9.04	3	.85	24	6.78	105	29.66	26	7.34
6. East Texas	87	11.85	5	.68	61	8.31	211	28.70	38	5.18
7. West Central Texas	43	8.50	2	.40	35	6.92	125	24.70	14	2.77
8. Upper Rio Grande	85	9.82	15	1.73	33	3.81	88	10.16	38	4.39
9. Permian Basin	41	7.88	3	.58	28	5.38	100	19.23	24	4.62
10. Concho Valley	29	9.51	6	1.97	24	7.87	67	21.97	17	5.57
11. Central Texas	132	12.43	10	.94	58	5.46	149	14.03	51	4.80
12. Capitol	203	16.64	36	2.95	75	6.15	180	14.75	74	6.07
13. Brazos Valley	44	18.97	6	2.59	21	9.04	51	21.98	7	3.02
14. Deep East Texas	31	10.26	2	.66	27	8.94	80	26.49	15	4.97
15. South East Texas	67	8.77	5	.65	35	4.58	118	15.45	25	3.27
16. Gulf Coast	1378	20.86	127	1.92	258	3.90	865	13.09	285	4.31
17. Golden Crescent	25	11.96	0	0.00	22	10.53	69	33.01	3	1.44
18. Alamo	468	17.54	49	1.84	132	4.95	384	14.39	137	5.13
19. South Texas	23	20.54	3	2.68	12	10.71	13	11.61	10	8.93
20. Coastal Bend	71	9.63	5	.68	41	5.56	149	20.22	34	4.61
21. Lower Rio Grande	55	13.58	8	1.98	32	7.90	88	21.73	23	5.68
# TOTALS	4,130		419		1,325		4,138		1,188	
			4,549				6,651			

*Figures for BSN's & MSN's are the total number in the region, not the number working in leadership positions.

6,651 - 4,549 = (2,102)

From this perspective, the Council asserted, through its adoption of most of the preliminary recommendations of the Review and Evaluation Committee, that improvement of quality nursing care would follow upon the improvement of the educational and professional qualifications of nurses. Hence, a great many of the recommendations in this report are directed toward improvement of the educational quality of those now in practice and those who will follow.

The health care system of this state, especially the small rural hospitals owes a tremendous debt of gratitude to the Licensed Vocational Nurse. She was there when no other nurse was available and, without the LVN, the patient care system of Texas would be in a far more desperate condition than it is now.

The LVN, despite her loyalty to patients and to her profession, has not had the opportunity to acquire the knowledge and advanced skills which are required in the professional program. The LVN, in many settings, functions in positions of great responsibility and trust, not because she wants to, but because she has to. There is no one else to "take charge", so she does.

Quality nursing care definitely includes the LVN in the ideal setting, but frees her from the responsibilities for which she was not trained to accept and permits her to devote her talents to the immediate and continuing patient needs, under the supervision of a professional nurse.

In the spirit of this concept, the Nursing Project believes that when professional nurses are increased in all employment settings, when registered nurses are available in rural practice in adequate numbers, then LVN's and RN's will be able to function as they are trained to function.

With the number of active RN's and active LVN's being about the same in number in this state, and with the RN's located more frequently in larger communities and less in smaller communities, the improvement in quality of care is going to require a dramatic change in the employment setting preferences of professional nurses.

We therefore submit, that in the interest of improving the quality of nursing care, the state needs to increase the distribution of RN's to he rural areas, especially to the hospitals and nursing homes, and to accomplish this, in part, by providing professional nurse education availability to LVN's who are qualified to become professional nurses.

The unequal distribution of RN's across the state results in the necessity for vocational nurses to provide the majority of nursing services available in certain geographic areas and in certain job settings. In these locations LVN's must assume leadership and patient management responsibilities beyond the scope of their educational background. Since it does not appear that these conditions will change significantly in the next few years, there is a definite need to provide these nurses with additional educational experience to assist them in providing quality nursing care. At the same time LVN's need

additional opportunities to further their careers by seeking to become RN's if they choose to do so. Results of the various surveys described in a previous chapter indicate that many LVN's are already enrolled in RN programs and more would participate if they could get college credit for their LVN programs. In order to facilitate this mobility for future graduates of LVN programs the Council submits the following:

RECOMMENDATION: SCHOOLS OF VOCATIONAL NURSING SHOULD BE PHASED INTO THE PUBLIC EDUCATION SYSTEM, PREFERABLY COMMUNITY COLLEGES, WHEN SUCH TRANSITION WOULD NOT ADVERSELY AFFECT THE REQUIRED SUPPLY OF LVN'S IN SMALL COMMUNITIES.

In order to assist currently employed LVN's who are working in positions as charge nurses or supervisors of nursing personnel, the following recommendations are submitted:

RECOMMENDATION: AN EDUCATIONAL PROGRAM SHOULD BE DEVELOPED SPECIFICALLY FOR LVN'S TO STRENGTHEN AND UPGRADE CURRENT SKILLS AND TO INSURE COMPETENCIES FOR FUNCTIONS WHICH THE LVN IS COMMONLY REQUIRED TO ASSUME BUT IS NOT ALWAYS PREPARED.

RECOMMENDATION: CONSIDERATION BE GIVEN TO THE DEVELOPMENT OF THE ABOVE PROGRAM IN SUCH A MANNER THAT THE REQUIRED STANDARDS FOR OBJECTIVES, CONTENT, LENGTH, AND QUALITY OF INSTRUCTION BE ACCEPTABLE AS A STATED AMOUNT OF CREDIT SHOULD THE LVN LATER DECIDE TO ENTER A REGISTERED NURSING PROGRAM. THIS WOULD NECESSITATE THAT SUCH OFFERINGS BE PROVIDED THROUGH OR IN AFFILIATION WITH PROGRAMS OF PROFESSIONAL NURSING IN ORDER TO INSURE ACCEPTANCE FOR CREDIT.

RECOMMENDATION: CONTINUING EDUCATION FOR LVN'S SHOULD BE A COOPERATIVE EFFORT AMONG PROGRAMS OF PROFESSIONAL NURSING SCHOOLS, SCHOOLS OF VOCATIONAL NURSING, AND LVN PRACTITIONERS.

NURSING EDUCATION

SECTION II

AN ANALYSIS OF THE CURRICULUM OBJECTIVES OF SELECTED PROFESSIONAL NURSING EDUCATION PROGRAMS

The concerns which led to the decision to study the behavioral objectives within the curriculums utilized by professional nursing programs stemmed from two major problems that complicate nursing education and nursing practice:

1. The current lack of clearly defined differences in the graduates of the various types of professional nursing programs

2. The lack of available information identifying areas of similar content among the curriculums of the various types of programs

The second area is particularly pertinent to nursing educators. Many nurses who have received basic nursing preparation in different types of programs wish to further their professional education. Because there is no consistent method of organizing and presenting nursing content, the curriculum in each school is usually considered somewhat unique. When a student transfers to another program or applies for a higher level program it is often difficult to determine how much credit should be granted. The student frequently must repeat courses which he considers very similar to ones taken earlier, or must take a challenge examination to verify that he has mastered specific content.

In a similar manner, educators develop nursing curriculums in order to prepare nurses to function in specific areas and in different capacities. The ADN graduate is prepared to function in a hospital or similar acute care setting and is primarily intended to work under the supervision of baccalaureate graduates. Because of the distribution problems, this arrangement is seldom possible. As a result, ADNs are expected to function in all areas and without other direct RN supervision. The problem is made more difficult by the inability of educators to clearly define the specific differences in areas of practice among the graduates of the various types of programs.

In a series of meetings conducted by the Education Task Force and the Education Subcommittee there was extensive discussion on possible ways to determine similarities and differences among programs. The end result of these meetings was agreement to base a study on the behavioral objectives utilized by each school.

The aim of the study was to develop a cataloging system which would allow all objectives from each school to be organized in a similar manner. In this way, similar objectives could be listed together and compared, regardless of the courses in which they were presented or the year and semester in which they were taught.

Although there were many problems associated with the development of such a system, a tentative approach was designed which would allow information about each objective to be coded and later placed on a tape for computer analysis.

A series of four one-day workshops were held in Austin, Dallas, Houston, and Lubbock to teach faculty members the procedure for coding the objectives utilized by their program. A total of 23 nursing programs participated in the study by coding their objectives as requested by the Project and sending the completed information to the Nursing Project's office.

The large volume of objectives and the time and expense required for processing made it necessary to utilize a sample of the objectives of participating schools for actual computer analysis. The sample consisted of 2 diploma programs, 7 associate degree programs and 4 baccalaureate programs.

The total number of objectives used in these programs was 12,222. The distribution of number of objectives used by each school is presented below. It is readily apparent that even within the same type of program there is a tremendous variation in the utilization of objectives.

NUMBER OF BEHAVIORAL OBJECTIVES USED IN EACH PROGRAM

	Dipl.	ADN	BSN
School #1	1,892	764	3,260
#2	1,014	1,335	1,359
#3		338	525
#4		348	452
#5		885	
TOTAL	2,906	3,720	5,596

This wide variation is partly explained by the fact that some schools write objectives in broad general terms and others are very detailed, often having a separate objective for each step of learning related to a specific topic. If objectives are used as a basis for evaluation of student learning and performance, the more specific they are. the easier it is to provide the student with a clear understanding of his level of achievement in comparison with expectations.

In an effort to determine how the various programs dealt with a particular subject, the final coding system provided a mechanism which could determine, to some extent, the breadth and depth with which a subject was presented. This could be done by determining 1) how many objectives within a program dealt with the same topic and 2) what level of knowledge was involved. The underlying assumption was that the more objectives dealing with one subject, the more the student was expected to know about it. The "level of knowledge" was based on the complexity of intellectual functioning required by the student in order to achieve the objective. For example, simple tasks of memorization such as "list the symptoms of diabetes" require less of the student than complex skills

such as comparison, contrast or evaluation. By using an analysis of this type it could be demonstrated that although the topics studied might be the same from one program to another, there could still be a significant difference in the end product of the various programs.

Findings of the Study

As expected, the analysis of objectives indicated that different types of programs place greater emphasis on different areas within the curriculum. The chart below demonstrates some of these differences.

MAJOR TOPIC BY TYPE OF PROGRAM AND PERCENT OF OBJECTIVES DEALING WITH EACH TOPIC

	Dipl.	ADN	BSN
Physiology	45.6%	49.7%	37.5%
Psycho-Social	8.7%	9.2%	17.4%
Cognitive Nursing Skills (Assessment, observation, planning, evaluation)	11.2%	9.5%	15.1%
Manipulative Nursing Skills (Procedural techniques and treatments)	14.2%	24.1%	12.9%
Nursing as a Profession	13.3%	3.4%	9.4%
The Health System	6.8%	3.7%	7.7%
TOTALS*	99.8%	99.6%	100.0%

The baccalaureate programs are known to emphasize the psycho-social aspects of health care and this is apparent, with 17.4 percent of the objectives related to this topic. Similarly, ADN programs are known to emphasize procedures and this is shown by 24.1 percent of objectives in the ADN curriculum related to techniques. Some unexpected findings indicate that, although the baccalaureate programs are intended to prepare "professional" practitioners, the diploma programs apparently place a greater emphasis on this particular area. Also, while many people have felt that the diploma graduate receives a greater emphasis on manipulative skills, the analysis of objectives show them to be very close in degree of curriculum emphasis.

This study of curriculum objectives has shown that the objectives taught in any program in nursing are determined by the particular nursing faculty and the director. We do not have in this state a stated list of curriculum objectives that applies uniformly to all programs.

Within nursing programs of the same type there is also a considerable variation of topic emphasis as demonstrated in the chart on the following page.

* The first two columns do not total 100% because of rounding of decimals.

PERCENT OF EMPHASIS ON SELECTED TOPICS

	Diploma Schools		ADN Schools					BSN Schools			
	#1	#2	#1	#2	#3	#4	#5	#1	#2	#3	#4
Physiology	41.5	53.4	41.2	52.1	42.8	34.9	64.6	46.1	34.3	13.4	9.2
Psycho-Social	10.8	4.9	10.2	6.4	16.0	17.3	4.0	18.4	21.3	7.0	8.9
Cognitive Skills	12.7	8.4	11.9	6.2	10.1	11.2	8.5	12.0	12.8	36.4	22.0
Manipulative Skills	15.7	11.5	28.4	29.2	22.2	26.2	16.9	11.0	11.0	10.4	39.9
Nursing as Profession	12.4	15.1	4.8	2.5	1.5	5.8	2.8	5.1	10.4	25.6	12.3
The Health System	6.9	6.7	3.4	3.7	7.5	4.6	3.2	6.5	10.3	7.2	7.6
TOTAL	100.0	100.0	100.1	100.0	99.9	100.1	100.0	100.1	100.1	100.0	99.9

For example, of the two diploma programs in the sample, one has almost twice as much emphasis on psycho-social aspects of nursing as the other. The same wide variation is also apparent in the other types of programs, with figures ranging from a low of 4.0 percent to a high of 17.3 percent in the ADN sample and 7.0 percent to 21.3 percent in BSN programs.

In looking at all types of programs, the range of differences can be startling. ADN school #3 devotes 1.5 percent of its objectives to "Nursing as a Profession" while BSN program #3 has 25.6 percent.

By analyzing the objectives of a particular program in the manner used by this study, it is possible to identify areas of emphasis in a curriculum that may not have been apparent when the program is viewed as a whole. Such an analysis would be useful to curriculum planners to ensure that there is an appropriate balance and that the total design is what the faculty intended it to be.

Since many objectives utilize more than one subject, it became eveident that there was a need to identify the ways in which subjects were combined if true similarities of content could be identified. For example, it is possible for two schools to each have 3 objectives related to diabetes without having any one objective common to both programs. This is demonstrated as follows:

School #1

1. List the symptoms of diabetes.
2. Name 2 types of insulin used to treat diabetes.
3. Define diabetes insipidus and diabetes mellitus.

School #2

1. Develop a nursing care plan for a patient with diabetes.
2. Explain the physiology of diabetic retinopathy.
3. Compare the symptoms of insulin shock and diabetic coma.

In the example given above, the demands on the student in School #1 are minimal, requiring simple memorization of a few basic facts. In School #2 the student is required to understand more complex knowledge in order to explain and compare and is also required to show how his knowledge can be put to use in a specific situation. In all these instances "diabetes" is the central subject but is used with other subjects as well. In order to identify that objectives were more similar

than having one word in common the coding system assigned a unique number to more than 1,200 subjects, 70 verbs, and 240 adjectives and modifiers. With this system the above objectives could have been coded as follows:

School #1				
	Verb	Modifier	Subj. #1	Subj. #2
1.	2 List	126 symptoms	376 diabetes	
2.	3 Name	175 types	342 insulin	376 diabetes
3.	4 Define	376 diabetes mellitus	463 diabetes insipidus	

School #2				
	Verb	Modifier	Subj. #1	Subj. #2
1.	36 Develop	275 careplan	376 diabetes	
2.	5 Explain	146 physiol.	376 diabetes	934 retinop.
3.	8 Compare	126 sympt.	376 diabetes	426 shock

In this manner it was readily apparent by looking at the code numbers that while each school had three objectives related to diabetes, they were not the same by any means. Only the number 376 was common. It became far more important to identify objectives that had two subjects in common in order to identify the similarities in curriculum content.

The use of the term "subject pairs" refers to an objective that includes two of the subjects from the more than 1,200 coded. Any two objectives that use two of the subjects in the list are considered to be similar in content. For example, in the following two objectives the common subjects are underlined.

1. Knows the principles of good body mechanics.

2. Demonstrates principles of body mechanics when giving patient care.

Another example is as follows:

1. List the classifications of drugs used in the treatment of cancer.

2. What is the drug most frequently used in the treatment of cancer of the bone?

Although the objectives are not identical, the fact that they include two of the same subject words increases the probability that they are closely related

The analysis of objectives based on common subject pairs revealed that 172 pairs were common to all three types of programs, 184 additional pairs were common to ADN and BSN, 165 common to diploma and BSN programs and 103 pairs common to diploma and ADN, as shown here.

	BSN Dip ADN	BSN ADN	Dip BSN	Dip ADN
Number of common subject pairs	172	184	165	103
Number of objectives involved	2,033	725	676	325

Since common subject pairs might have a variable number of objectives with different verbs and modifiers, a frequency distribution was prepared to show the number of times subject pairs had 2 or more related objectives. The following chart indicates the findings for the combinations of nursing programs.

In the comparison of objectives that were common to all three types of programs, 17 different subject pairs (10 percent of all subject pairs) had three objectives for each subject pair. Looking further down the chart it is shown that five subject pairs had 19 objectives each and one subject pair had as many as 73 objectives which included the same two terms. The more objectives there are with each subject pair, the greater the emphasis of those subjects in the curriculum.

NUMBER OF SUBJECT PAIRS

No. of Objectives	ADN Dip BSN		ADN BSN		Dip BSN		Dip ADN	
	#	%	#	%	#	%	#	%
2	-	-	73	39	70	42	47	46
3	17	10	41	22	28	17	23	22
4	22	13	20	11	24	15	14	13
5	21	12	20	11	15	9	8	7
6	11	5	9	5	2	1	4	3.8
7	4	2	7	4	5	3	2	1.9
8	11	6	5	3	6	4	2	1.9
9	12	7	2	1	2	1	1	0.9
10	12	7	1	0.5	3	2		
11	7	4	3	2	2	1		
12	7	4	1	0.5	3	2		
13	5	3	-	-	2	1		
14	8	5	1	0.5	3	2		
15	1	-			1	0.6		
16	2	1						
17	3	2						
18	4	2						
19	5	3						
20	-	-						
21	1	0.5						
22	4	2						
23	1	0.5						
24	4	2						
25	-	-			1	0.6		
29	3	2						
30	1	0.5						
31	1	0.5						
37	1	0.5						
41	1	0.5						
42	1	0.5						
43	-	-	1	0.5				
57	1	0.5						
73	1	0.5						

In cases where a subject pair had an unusually large number of objectives, such as the pair with 73 objectives in the three-program comparison, the subjects were general terms such as "patients" or "nursing care". The greatest percentage of subject pairs had between two and five objectives per pair.

The verbs used in each objective give an idea of what is expected of the student. Verbs which require memorization of facts require less knowledge and ability than verbs which require an understanding of how the facts relate to situations and how facts are applied. When the objectives were coded for computer analysis they were grouped into various levels, with level one being considered the simplest and seven the most complex. the following chart gives examples of each level.

Level #1 - cite, name, list, state, memorize
Level #2 - identify, diagram, match
Level #3 - define, describe, explain, interpret
Level #4 - anticipate, plan
Level #5 - adapt, modify, adjust, calculate, solve
Level #6 - analyze, compare, differentiate
Level #7 - evaluate

Theoretically one would expect objectives dealing with a particular subject to increase in complexity throughout the course or curriculum. One would also expect that the longer the program, the more opportunity to deal with more subjects at a complex level. This is not strongly substantiated by the data. Two possible explanations are suggested. Either there is a minimum of difference among the various programs in the complexity of subject matter in certain areas, or objectives are not carefully designed to demonstrate such progression of complexity.

The following charts illustrate the levels of objectives common to the various types of programs. Of all the objectives common to all three types of programs, 409 were classified as Level 1. Of these, 148 were in ADN programs, 114 in diploma programs and 409 in baccalaureate programs.

There were a number of objectives not classified by level as the statement did not use verbs reflecting any particular category of knowledge level expected of the student. This figure is indicated by percent in Column 8.

LEVELS OF SIMILAR OBJECTIVES
COMMON TO ALL THREE TYPES OF PROGRAMS

LEVEL	1		2		3		4		5		6		7		8		0		TOTAL	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
ADN	148	23.1	138	21.5	167	26.1	5	.8	29	4.5	25	3.9	8	1.3	117	18.3	3	.6	641	100.0
DIP	114	22.5	93	18.3	136	26.8	8	1.6	5	.9	21	4.1	16	3.1	111	21.9	3	.6	507	100.0
BSN	147	16.6	83	9.4	428	48.4	4	.5	3	.3	52	5.9	16	1.8	146	16.5	6	.7	885	100.0
ALL PROGRAMS	409	20.1	314	15.5	731	35.9	17	.8	37	1.8	98	4.8	40	1.9	374	18.4	12	.6	2033	100.0

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For all three types of programs, the majority of objectives fell in levels 1-3 and relatively few appeared designed to evaluate the more complex levels of professional knowledge and performance. The BSN programs had a greater percentage of objectives at higher levels primarily due to the large number in level 3. Unexpectedly, the diploma programs showed a greater percentage in levels 4, 5, and 7 although the difference was not great.

Although the ADN programs state that their curriculum is limited in scope but unlimited in depth, the analysis of objectives does not particularly support this statement. It was found that ADN programs cover almost as many topics as each of the other two program types but with fewer objectives for each topic.

KNOWLEDGE LEVEL OF OBJECTIVES COMMON TO
DIPL.-ADN, DIPL.-BSN, ADN-BSN

LEVEL	1		2		3		4		5		6		7	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
DIP	44	27.2	26	16	29	17.9	2	1.2	1	.6	3	1.9	9	5.6
ADN	38	23.3	46	28.2	32	19.6	5	3.0	6	3.7	1	.6	3	1.8
TOTAL	82	25.2	72	22.1	61	18.7	7	2.2	7	2.2	4	1.2	12	3.7

LEVEL	1		2		3		4		5		6		7	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
DIP	74	26.3	57	20.2	67	23.8	4	1.42	1	.4	12	4.3	8	2.8
BSN	56	14.1	60	15.1	193	48.8	1	.25	3	.8	23	5.8	11	2.8
TOTAL	130	19.2	117	17.3	260	38.5	5	.74	4	.6	35	5.2	19	2.8

LEVEL	1		2		3		4		5		6		7	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
ADN	58	21.0	59	21.4	70	25.4	7	2.5	4	1.5	15	5.4	0	-
BSN	75	16.8	44	9.8	206	46.0	6	1.3	3	.7	17	3.8	14	3.1
TOTAL	134	18.5	103	14.2	276	38.0	13	1.8	7	.9	32	4.4	14	1.9

Since the three types of professional programs vary in length from 2-4 years, there has been much discussion among educators and practitioners concerning the particular time subject matter is introduced in a curriculum and ways of granting credit for the same content which is offered at different levels. For example, in ADN programs, fundamental skills, such as taking temperature and blood pressure, are taught in the first year. In BSN programs students are often not admitted to nursing courses until their junior year. When they learn to take vital signs they receive lower division credit.

Once the similar objectives were identified for the various contributions of programs they were analyzed to determine how many were offered in each semester of the program. Findings indicate that in most instances the majority of similar objectives are introduced during the first two semesters that students are enrolled in nursing courses. The differences in programs appear to be greater as the curriculum progresses. This would seem to support the idea that basic knowledge is similar in the early part of all programs and would justify a ladder concept which would grant a designated amount of credit in transfer situations. We therefore submit that if all programs taught the content that is similar in the same sequence and stressed differences later in the program a multiple entry and exit curriculum would be feasible and would promote upward career mobility for those who desire to further their educational preparation.

The charts indicating time of introduction of similar objectives are shown below. Since diploma students spend their first year taking non-nursing courses, the majority of their similar objectives appear in the first and second semesters of the second year. The ADN students begin nursing courses immediately and their similar objectives are taught primarily in the first two semesters of the first year. BSN programs show the greatest percentage in the third year.

THE YEAR AND SEMESTER THAT OBJECTIVES COMMON TO THE THREE TYPES OF PROFESSIONAL NURSING PROGRAMS ARE INTRODUCED* **

YR.	1						2						3						4						TOTAL	
SEM.	1		2		3		1		2		3		1		2		3		1		2		3			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
ADN	207	32	221	35	13	2	102	16	43	7	53	8													639	100
DIP	22	4	1	-	0	-	104	21	191	39	0	-	105	21	25	5	46	9							495	100
BSN	5	1	0	-	0	-	82	9	105	12	58	7	231	26	181	21	43	5	147	17	24	3			876	100
TOTAL	234		222		13		288		339		111		336		207		89		147		24				2010	100

*Percentages may total more than 100 due to rounding of decimals

**23 objectives not included due to incomplete coding

THE YEAR AND SEMESTER THAT OBJECTIVES COMMON TO THE ADN AND BSN PROGRAMS ARE INTRODUCED*

YR.	1						2						3						4						TOTAL	
SEM.	1		2		3		1		2		3		1		2		3		1		2		3			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
ADN	87	31.6	94	34.2	1	.3	50	18.2	19	6.9	24	8.7													275	100
BSN	1	.2	0	-	0	-	32	7.2	36	8.1	21	4.7	116	26.0	105	23.6	14	3.2	107	24.0	13	2.9			445	100
TOT.	88	12.2	94	13.0	1	.1	82	11.4	55	7.6	45	6.3	116	16.1	105	14.6	14	1.9	107	14.8	13	1.8			720	100

* five objectives not included due to incomplete coding

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THE YEAR AND SEMESTER THAT OBJECTIVES COMMON TO THE DIPLOMA AND BSN PROGRAMS ARE INTRODUCED*

YR. SEM.	1 1		1 2		1 3		2 1		2 2		2 3		3 1		3 2		3 3		4 1		4 2		4 3		TOTAL	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
DIP	13	4.7	0	-	0	-	70	25.2	80	28.8	0	-	57	20.6	31	11.2	26	9.4							277	100
BSN	6	1.5	0	-	0	-	29	7.4	38	9.6	14	3.5	89	22.6	60	15.2	15	3.8	105	26.7	38	9.6			394	100
TOTAL	19	2.8	0	-	0	-	99	14.8	118	17.6	14	2.0	146	2.18	91	13.6	41	6.1	105	15.6	38	5.7			671	100

*five objectives not included due to incomplete coding

THE YEAR AND SEMESTER THAT OBJECTIVES COMMON TO THE DIPLOMA AND ADN PROGRAMS ARE INTRODUCED*

YR. SEM.	1 1		1 2		1 3		2 1		2 2		2 3		3 1		3 2		3 3		TOTAL	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
Dip.	7	4	0	0	0	0	36	23	58	37	0	0	28	18	3	2	25	16	157	100%
ADN	31	19	55	34	0	0	33	20	27	17	17	10	-	-	-	-	-	-	163	100%
TOTAL	38	12	55	17	0	0	69	22	85	27	17	5	28	9	3	1	25	8	320	100%

* five objectives not included due to incomplete coding

Although limitations of time and resources prevented the Project from accomplishing all that was intended in the study of objectives, it did result in identification of the problems which prevent the effective utilization of objectives. As a result, adoption of a more uniform approach to the writing of objectives, with consideration given to development of knowledge at various levels, would provide a helpful approach to the development of nursing curriculums and would allow easier differentiation of skills and abilities among the various types of programs.

During the course of working with large numbers of objectives prepared by many different individuals, it became apparent that if everyone would follow some basic rules when writing objectives it would be possible to better utilize them for purposes of evaluating courses for transfer of credit and evaluating student performance. In addition, a future study such as this one could be conducted with a much higher degree of reliability. Some suggestions which would have improved the quality of the data are:

1. Objectives should be brief and concise and should be limited to the achievement of a specific goal. When subjects are too broad or several subjects or goals are combined, it complicates the evaluation of the achievement of the objectives.

2. When objectives require students to "list symptoms" or "describe factors" or "know the contributions of individuals in nursing history" the objectives should state a specific number. Without such a clarification, the student is unable to determine what is satisfactory performance and what is not. In addition, comparisons between programs are difficult. "List three symptoms" or "Describe the contribution of ten individuals" eliminates these difficulties.

3. Terms such as "knows", "understands", "appreciates" and "become acquainted with" should be avoided since they are vague and difficult to evaluate.

4. Objectives dealing with a particular subject in which the student is expected to become increasingly competent should be developed with increasing levels of complexity throughout the curriculum. Too often the majority of objectives for senior students in all types of programs are still at a low level of "list" and "define" rather than "contrast", "develop", "interpret" or "evaluate". Objectives dealing with a single subject should show evidence of progression from a simple to complex requirement of the student.

5. Too few curriculum objectives are directed toward clinical experience. Being able to list the symptoms of congestive heart failure and being able to recognize that a patient is going into congestive heart failure may be quite different. A student may appear to know the theory of a subject but be unable to apply it.

6. A number of objectives were stated in general terms that did not specify what was expected of the student. For example, one states: "Provide nursing care to patients who have disturbances of orientation." An objective of this nature does not distinguish the differences in care expected from the student as opposed to the aide. It does not indicate that the student is supposed to deal with disorientation in any specific manner. An alternative statement could have been: "When caring for a patient with a disturbance of orientation, the student initiates measures to 1) insure safety and 2) assist in establishing or maintaining contact with reality.

7. Various topics were treated unevenly both within a single program and among the different types of programs. A relatively broad topic would be covered with one or two very general objectives while a seemingly minor subject might have as many as 10 or 15. This makes it difficult to determine exactly what is taught and what degree of importance is attached to various subjects.

The Limitations of the Study of Curriculum Objectives

A study involving analysis of over 12,000 objectives taught by 11 schools and written by an unknown number of faculty members presents difficulties from the beginning.

As mentioned earlier, the lack of a uniform approach to writing objectives made it difficult to design a coding system which could convey the exact meaning of all objectives. However, after receiving the materials from the schools, they were checked for accuracy of coding. All objectives re-

ceived additional coding by two Nursing Project staff members. Since this coding was used extensively in the computer analysis the fact that it was done by the same two people insures consistency of application of the process.

Some of the limitations of the study are related to the use of objectives by the schools. Prior to the beginning of the study questions were raised concerning whether or not it was possible to know if a school actually mastered the majority of stated objectives. Since we had no way of measuring student achievement or of faculty implementation, the Education Task Force made the decision to work on the underlying assumption that schools do implement their written objectives.

The limitations of time and staff made it impossible for the Nursing Project to do as much analysis of the data as would have been desirable. Despite this, the resulting information appears to point out similarities in programs that could be useful in developing and evaluating nursing curriculums that would facilitate transfer of credit and career mobility.

Despite these limitations, the analysis of curriculum objectives made a significant contribution to the work of the Review and Evaluation Committee, and to the entire Nursing Project. The findings of the analysis were studied by the Committee and had an influence on their recommendations to increase clinical experience for nursing students. For example, the level of emphasis on manipulative nursing skills, as shown by the analysis, was considered inadequate and the Committee supported increased clinical emphasis on the basis that this was the appropriate way to improve those skills. This influence is applied in the recommendations on clinical experience found elsewhere in this report. The need for additional clinical emphasis was also supported by survey returns from practicing RN's and senior nursing students.

Shown below are the lists of information coded by the participating nursing programs and the items that were coded by the staff.

TYPE OF INFORMATION ACQUIRED ON EACH
INDIVIDUAL BEHAVIORAL OBJECTIVE

Coded by School Faculty Members

1. Major Topic (32)*
2. Body System (11)
3. Age Group (9)
4. Nursing Action Required (10)
5. Clinical Setting Associated with the Objective (9)
6. Type of Objective (4)
7. Year and Semester Introduced (3)
8. Year and Semester Achievement Expected (3)
9. Essential to Pass the Course (2)

Coded by CBNP Staff

10. Action Term (71)/(50)**
11. Modifiers (254)/(187)
12. Subject #1 (1273)/(929)
13. Subject #2 (1273)/(929)

*Number of categories within the variable
**Number of item groups resulting from the "synonym" process

CHAPTER V

THE REGIONAL PERSPECTIVE: PROJECTIONS AND RECOMMENDATIONS

Having followed the regional format in collecting and analyzing the data for the Nursing Project, we have prepared a report on each planning region to provide assistance to those who will use this report in planning at the regional level. We have included several types of data and information for this purpose, along with the recommendations.

In Attachment A, we have provided additional statistical data on each planning region which can be used with the descriptive information for each region and which is fundamental to the regional recommendations.

The enrollment data which are presented in the the regional reports include the enrollment as reported by the programs in nursing. Several of the programs offering the baccalaureate degree in nursing reported freshmen and sophomores and they are included in the totals presented on the following pages.

In order to simplify the identification of nursing students in the final year of the nursing program, we have used the word "senior" to mean any student in the final year of the program. As used here it refers to second year ADN students, third year diploma program students, and fourth year students in the baccalaureate program.

As shown on the regional charts in this chapter, the number of RN's employed in 1972-73 is the full-time equivalent number which is less than the total number of active RN's shown in Attachment A. The FTE number employed in 1972-73 will obviously be reduced by 1980. The number to be added by 1980 includes an increase to compensate for those who will no longer be on active status by 1980. The total number of RN's needed by 1980 is therefore not the sum of those currently employed and the additional number needed.

The Full-Time Equivalent (FTE) number of RN's used in the regional compilations and throughout this report was computed by adding all the full-time RN's and 50 percent of those employed part-time, plus 50 percent of those reported as active but not indicating the number of hours per week that they were employed. The same process was used to determine the FTE-LVN ratios. The following example illustrates the process:

Activity Levels	Active	FTE-RN's
Full-time	500	500
15-30 hours per week	110	55
Less than 15 hours per week	50	25
Incomplete	6	3
TOTALS	666	583

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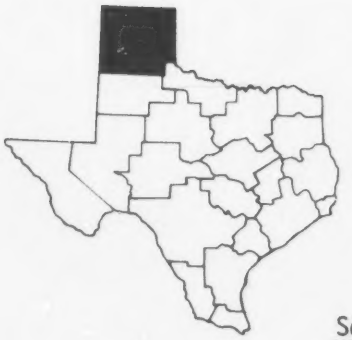
TEXAS PLANNING REGIONS

September 1971

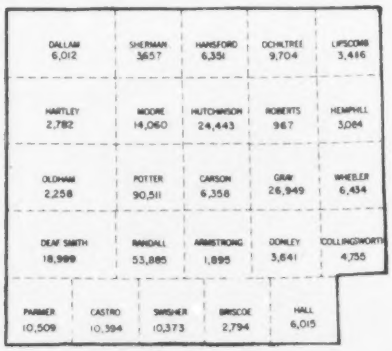
REGION I: PANHANDLE



Projected Population *

1970	330,321
1980	362,800
1990	395,000

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	778
Need to add by 1980:	481
Total RN's needed by 1980:	1,117
Ratio RN's/100,000 in 1973:	236
Ratio RN's/100,000 by 1980:	308

LVN Data

Active LVN's in 1972:	837
Ratio LVN's/100,000 in 1972:	249
Number of LVN programs:	8

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	1	343	14
ADN	1	127	52
Dip.	1	316	84
TOTAL	3	786	150

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	23	1,755	568	557	1 to 3	1 to 3
Nursing Homes	30	1,797	38	124	1 to 47	1 to 14

In 1970, Region I had total population of nearly one-third of a million, and almost half (43.7%) was in Potter and Randall counties. This concentration of population results in an unequal urban-rural distribution which is characteristic of the entire state.

The 152 RN's needed in hospitals under the optimum ratios include 113 for the rural areas. Of the 86 RN's needed in nursing homes, 54 are needed in the rural areas.

*All population projections are from Population Projections for Texas Counties: 1975-1990, Population Research Center, University of Texas at Austin.

In the chart on the previous page, the region has one RN for each 47 nursing home beds. In the urban areas, the ratio is one to 37 beds and one to 62 beds in the rural areas.

There are three professional nurse programs in the region: a BSN program at West Texas State University in Canyon, an ADN program at Amarillo College, and a diploma program at Northwest Texas Hospital. In 1973, the combined enrollments in these programs totaled 786 students and 150 of them were seniors.

The region has done an excellent job in meeting its nurse needs and its 236 FTE-RN's per 100,000 population is among the best in the state. Should the existing programs continue to be as productive of graduates as they have been in recent years, the region will exceed the optimum ratios of the Nursing Project by 1980 and employment opportunities for the graduates within the region could become limited. The projections show that there will be an excess of 624 RN's in the region unless adjustments are made in enrollments.

There are eight LVN programs, one of them at Amarillo College with 70 students enrolled in 1973.

For the foreseeable future, Region I will experience an improvement toward meeting the optimum ratios in the urban areas and can concentrate on meeting the rural nurse needs.

The geographic distance to existing graduate programs in nursing has required the region's nursing representatives to negotiate for the importing of graduate courses for faculty improvement. Under the recommendations for education in this report, this effort will be reinforced and structured for other regions having the same need.

So that Region I may continue to move toward meeting the optimum ratios of the Project, these recommendations are submitted:

1. The initiation of the multiple entry and exit curriculum be considered among a consortium of the several nursing programs which would allow qualified students the option of exiting at the LVN, ADN, or BSN level.

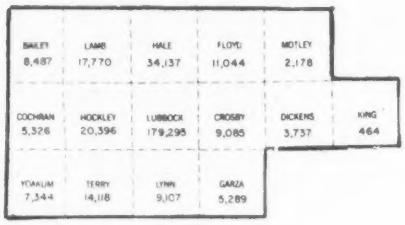
2. The total enrollment of professional and vocational nursing programs be adjusted to produce the numbers of graduates needed and to prevent an oversupply.

REGION II: SOUTH PLAINS

Projected Population

1970	327,777
1980	418,300
1990	456,300

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	561
Need to add by 1980:	1,197
Total RN's needed by 1980:	1,648
Ratio RN's/100,000 in 1973:	171
Ratio RN's/100,000 by 1980:	394

LVN Data

Active LVN's in 1972:	1,033
Ratio LVN's/100,000 in 1972:	307
Number of LVN programs:	5

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	-	-	-
Dip.	1	125	73
TOTAL	1	125	73

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	26	2,106	392	676	1 to 5	1 to 3
Nursing Homes	32	1,926	22	116	1 to 87	1 to 17

In 1970, over half (54.7%) of the nearly one-third of a million population of Region II was in Lubbock County. As shown in the projections listed above, the region is expected to have substantial increase in population through 1990.

Lubbock is a major educational and medical center for the high plains: Texas Tech University and Texas Tech University School of Medicine are located there. The only local supply source for professional nurses is the diploma program at Methodist Hospital in Lubbock. Enrollment in the fall of 1973 was 125 students and 73 were seniors.

As shown in the data charts given above, the FTE-RN ratio to population is 171 per 100,000 which ranks eleventh among the 21 regions. Data from relicensure cards indicate that most of the RN's in the region are diploma graduates.

Projections of the Nursing Project indicate that a substantial increase in number of RN's in Region II must be made for the optimum ratios to be met. As given on the data tables on the preceding page, a net increase of 1,087 RN's is needed in the urban hospitals and in all nursing homes. Many of the rural counties in Region II are projected to decline in population and the RN need will be greater in the urban areas.

Throughout the region, nursing care in hospitals is dominated by LVN's where the ratio is one LVN to every three beds. As depicted above, there is one RN for every five hospital beds. The nursing home ratios are also well below the optimum levels.

The region has minimal educational opportunities for those selecting nursing as a career. There are five LVN programs in the region including one at South Plains College (Levelland) and two others are in the public school districts of Lubbock and Plainview. In 1973, these three programs had total enrollments of 133 students. The remaining two programs are in hospitals.

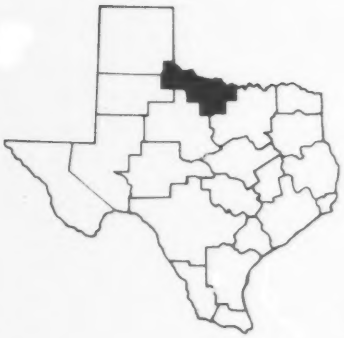
Region II is faced with an adverse ratio of RN's to LVN's and, under existing circumstances this condition is not going to improve enough to meet the optimum level of professional nurses. At the current rate of producing professional nurses, the region will be 621 RN's short of the optimum level by 1980.

So that Region II can move toward early improvement of its deficiency of registered nurses and achieve the optimum levels supported by the Nursing Project, we recommend:

1. The initiation of a multiple entry and exit baccalaureate nursing program in Lubbock. The program should not be initiated prior to 1976 and only if faculty and student recruitment would not adversely affect existing programs.

2. Educators in the region should explore the offering of baccalaureate nursing courses in Lubbock through cooperative arrangements with existing schools of nursing until the Lubbock program is in operation.

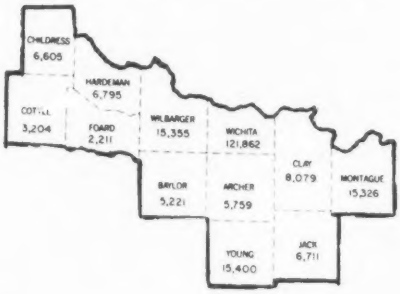
REGION III: NORTH TEXAS



Projected Population

1970	212,528
1980	212,400
1990	212,400

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	410
Need to add by 1980:	549
Total RN's needed by 1980:	858
Ratio RN's/100,000 in 1973:	193
Ratio RN's/100,000 by 1980:	404

LVN Data

Active LVN's in 1972:	731
Ratio LVN's/100,000 in 1972:	331
Number of LVN programs:	8

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	1	134	60
Dip.	-	-	-
TOTAL	1	134	60

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	18	1,290	310	427	1 to 4	1 to 3
Nursing Homes	36	2,669	24	145	1 to 11	1 to 18

The 12 counties which make up Region III are located along the upper Red River and over 57 percent of the 1970 population of 212,528 was located in Wichita County. Official projections show virtually no change in total population to 1990.

The 410 FTE-RN's is made up of 459 nurses who work full or part-time. The 193 RN's per 100,000 population is tenth among the 21 regions.

The optimum levels of RN's recommended by the Nursing Project would require that 138 RN's be produced for the region beyond those currently projected through the existing supply pattern.

About 50 percent of the need for RN's under the optimum levels is in rural hospitals and 37 percent of the need is in nursing homes in Wichita County. The ratio of one RN to every 111 nursing home beds is far below the level of 1 to 15 recommended by the Project.

There is one professional nurse program in the region, a two-year ADN program at Midwestern University in Wichita Falls. The enrollment in the fall of 1973 was 134 students and 60 were seniors. Approximately 67 percent of the RN's in the region were reported as having no degree. At the present time, courses leading toward the baccalaureate degree in nursing are not available within the region.

There are eight LVN programs in the region, including one at Vernon Regional Junior College. Enrollment in 1973 was 34 students.

With a stable population, the existing ADN program can produce the required number of professional nurses through a modest increase in enrollment. In order to provide the optimum level of RN's and improve educational opportunity for professional nurses within the region, the Project recommends:

1. The existing ADN program increase its enrollment by twenty percent.

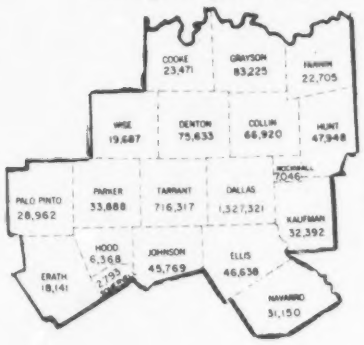
2. The educators in the region consider implementation of the multiple entry and exit curriculum, to be initiated after 1976, contingent upon the effect this would have on faculty and enrollment in the existing programs.

REGION IV: NORTH CENTRAL TEXAS

Projected Population

1970	2,636,374
1980	3,147,300
1990	3,802,700

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	5,565
Need to add by 1980:	5,398
Total RN's needed by 1980:	9,819
Ratio RN's/100,000 in 1973:	211
Ratio RN's/100,000 by 1980:	312

LVN Data

Active LVN's in 1972:	6,108
Ratio LVN's/100,000 in 1972:	232
Number of LVN programs:	24

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	5	3,057	479
ADN	5	794	332
Dip.	-	-	-
TOTAL	10	3,856	811

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	97	11,948	4,025	3,758	1 to 3	1 to 3.1
Nursing Homes	169	15,982	227	1,050	1 to 70	1 to 15

The most heavily populated region in the state, Region IV has 19 counties and in 1970, Dallas County had half of the region's population of over 2.6 million. The concentration of population in this region is projected to continue to increase to 1990, with over a million increase from 1970 to 1990.

The Dallas-Fort Worth area has extensive and varied medical facilities and educational programs at all levels. The 97 hospitals employ over 4,000 professional nurses and almost 4,000 LVN's. Of the 97 hospitals, 65 are in Dallas and Tarrant Counties and five of them have over 500 beds each.

Existing ratios of RN's to beds in hospitals are close to the optimum levels recommended by the Nursing Project but well below the level recommended for nursing homes. About three out of every five RN's employed in the region work in hospitals.

The FTE-RN ratio of 211 to 100,000 population is sixth in rank among the 21 regions and under optimum levels, should increase to 312 per 100,000 by 1980. Under the existing supply pattern for professional nurses, the region would be short of the optimum level by over 1,200 RN's by 1980. Despite this potential shortage under optimum levels, Region IV is in better condition in availability of RN's than most other regions of the state. Dallas County in particular is a popular location named by many nursing students as their preference to begin practice.

There are extensive nursing education facilities and programs of all types in the region. These include, at the baccalaureate level, Baylor University, Dallas Baptist University, and Texas Christian University, all privately supported. In addition to these three private programs, there are two publicly supported baccalaureate programs at Texas Woman's University (Dallas Center) and The University of Texas at Fort Worth. There are four ADN programs in the region at Dallas County Community College (El Centro Campus), at Cooke County Junior College, Grayson County Junior College, and Tarrant County Junior College (South Campus). Enrollments for these programs are shown on the charts above. A fifth ADN program was approved in November, 1974, for Southwestern Union College at Keene, Texas.

In addition to these professional nurse programs, there are some 24 LVN programs in the region with several in community colleges and public school districts. In 1973, there were 23 enrolled at El Centro College and 34 at Grayson County Junior College.

Despite the wealth of nursing programs concentrated in the Dallas-Fort Worth area, the region contains outlying rural areas which have need for more RN's in rural hospitals and nursing homes. Some of these rural areas are sharply deficient in adequate clinical facilities for the education of professional nurses and have not benefitted from the large numbers of students educated in the urban areas of the region.

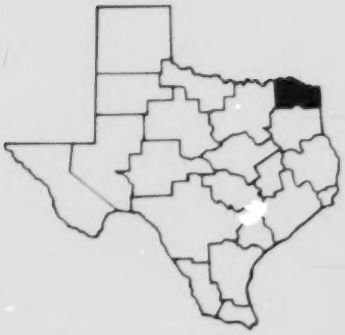
In other parts of this report we have addressed the problem of acquainting students with the benefits of rural life and work through clinical rotation. The Nursing Project therefore recommends:

1. The professional programs of nursing in Region IV move to implement the recommendations on providing rural clinical experience for students.

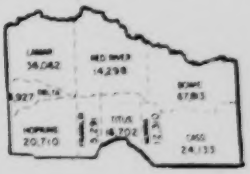
2. The professional programs of nursing in the region move to establish joint faculty appointments for qualified service personnel in the non-urban hospitals and other patient care settings.

3. The recommendations on continuing education in this report be vigorously applied to all counties in Region IV.

REGION V: NORTH EAST TEXAS



County Population: 1970



Projected Population

1970	202,346
1980	205,600
1990	193,000

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	325
Need to add by 1980:	607
Total RN's needed by 1980:	857
Ratio RN's/100,000 in 1973:	161
Ratio RN's/100,000 by 1980:	417

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	2	183	74
Dip.	-	-	-
TOTAL	2	183	74

LVN Data

Active LVN's in 1972:	602
Ratio LVN's/100,000 in 1972:	295
Number of LVN programs:	4

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	LVN's	Ratios to Beds of RN's	LVN's
Hospitals	14	1,120	215	352	1 to 5	1 to 3
Nursing Homes	29	2,475	20	161	1 to 124	1 to 15

The nine counties of Region V in extreme northeast Texas are predominantly rural and the population is projected to decline through 1990. About one-third of the 1970 population of 202,346 was in Bowie County (Texarkana).

While there were 460 RN's in the region in 1973, only 355 were active and the FTE-RN level was 325. This amounted to 161 RN's per 100,000 population which was thirteeth among the 21 regions.

The data shown in the charts given above for Region V display the predominance of LVN's to RN's in the ratios in hospitals and nursing homes and this indicates that the existing RN programs will need to increase the number of graduates over the next six years to provide the optimum level of RN's being recommended by the Nursing Project. An additional resource for the region is further education for qualified LVN's who seek to become RN's.

The two professional nursing programs are both at the ADN level and are located at Paris Junior College and Texarkana Community College. Their combined enrollments in fall, 1973, totaled 183 students and 74 of them were seniors.

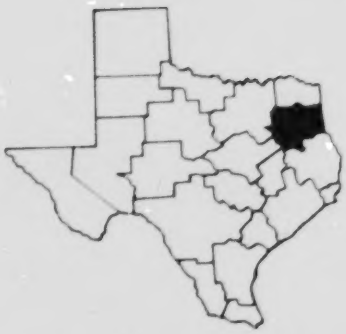
In order for Region V to arrive at the optimum levels of RN's by 1980, including provision for meeting the needs of the area which has a high aging index, the Nursing Project recommends:

1. Provision be made for providing continuing education for LVN's and RN's in the region.

2. Increase enrollment in the ADN program to produce over 200 new graduates above the current production level by 1980.

3. Emphasize geriatrics in the curriculum now available.

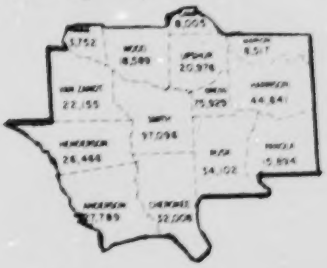
REGION VI: EAST TEXAS



Projected Population

1970	429,119
1980	451,600
1990	453,400

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	655
Need to add by 1980:	1,343
Total RN's needed by 1980:	1,883
Ratio RN's/100,000 in 1973:	153
Ratio RN's/100,000 by 1980:	417

LVN Data

Active LVN's in 1972:	1,592
Ratio LVN's/100,000 in 1972:	359
Number of LVN programs:	10

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	*	-	-
ADN	1	108	42
Dip.	1	170	31
TOTAL	2	278	73

*An upper level BSN program was approved in 1974 for Tyler State College

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	LVN's	Ratios to Beds of RN's	LVN's
Hospitals	33	2,517	459	958	1 to 5	1 to 2
Nursing Homes	59	5,609	50	332	1 to 112	1 to 17

The population of 14 county Region VI is projected to steadily increase over the next 15 years.

The FTE-RN ratio is fifteenth in rank among the 21 regions with 153 FTE-RN's per 100,000 population. There is a deficiency of RN's in both hospitals and nursing homes as shown in the charts displayed above. About 58 percent of the current deficit of RN's is in hospitals in Smith and Gregg counties.

The chief needs of the region are the production of more RN's and to retain in the region those who have completed their nursing education within the area.

There are two basic professional nursing programs in the region: an ADN program at Kilgore College and a diploma program at Texas Eastern School of Nursing in Tyler. These two programs had 278 students enrolled in the fall semester 1973, and 73 of them were seniors. A new upper level BSN program is being implemented at Tyler State College and the program should provide the critical retention factor to prevent out-migration of professional nurses who seek the baccalaureate degree in nursing.

The dominance of LVN's over RN's in the region, particularly in the hospitals and nursing homes, needs to be reversed to meet the optimum level of professional nurses recommended by the Nursing Project.

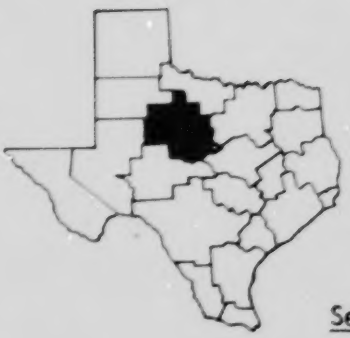
There are about ten LVN programs in the region and there were 1,592 active LVN's, full and part-time, in 1971-72.

In order to permit Region VI to meet the optimum level of professional nurses by 1980, the Nursing Project recommends:

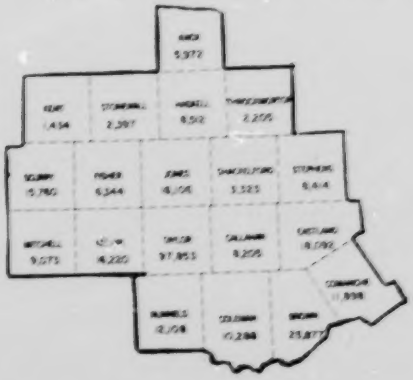
1. Emphasis be placed on providing continuing education for the LVN's and RN's in the region.

2. Increase the enrollment of the professional nurse programs in the region to produce an increase of 952 RN's above those projected under current enrollments.

REGION VII: WEST CENTRAL TEXAS



County Population: 1970



Projected Population

1970	280,108
1980	255,600
1990	235,200

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	469
Need to add by 1980:	688
Total RN's needed by 1980:	1,030
Ratio RN's/100,000 in 1973:	167
Ratio RN's/100,000 by 1980:	403

LVN Data

Active LVN's in 1972:	1,218
Ratio LVN's/100,000 in 1972:	441
Number of LVN programs:	9

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	-	-	-
Dip.	1	56	24
TOTAL	1	56	24

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	31	1,653	370	751	1 to 4	1 to 2
Nursing Homes	60	4,100	24	313	1 to 170	1 to 13

The population of Region VII is projected to steadily decline through 1990. Taylor County is an exception and will increase in population.

Nursing care in the region is predominantly delivered by LVN's and the data presented above indicate that LVN's outnumber RN's by about three to one. The region has the state's highest ratio of LVN's to population (441 per 100,000) and the RN ratio is 173 per 100,000.

Region VII has the highest ratio of nursing home beds to population (1,120 per 100,000) of any in the state, and the second highest ratio of hospital beds

(548) per 100,000 population. The population consists of a high percentage of older persons and nursing homes, depicted on the preceding page.

The comparatively large numbers of health care facilities, low RN ratios, high LVN ratios, and high aging index point to the region's need for additional professional nurses.

There is only one professional nurse program available, a diploma program at Hendrick Memorial Hospital in Abilene. Efforts to establish an ADN program in the region outside Abilene have failed because of inadequate clinical facilities. Enrollment in the diploma program in 1973 totaled 57 students with 24 in the third year class.

To meet the optimum levels of professional nurse care as recommended by the Project, the region will need an additional supply source for nurses, and 688 additional RN's will be required.

Abilene does not have a publicly supported institution of higher education. Local voters have rejected bond issues to establish and support a community college and one of the community's alternatives for meeting educational needs is to turn to the three privately supported universities in the community, Abilene Christian College, Hardin-Simmons University, and McMurry College. At the present time, these institutions have the capability to provide the non-nursing courses for the professional nurse curriculum.

The Nursing Project therefore recommends:

1. Top priority be given the continuing education needs of LVN's in the region.

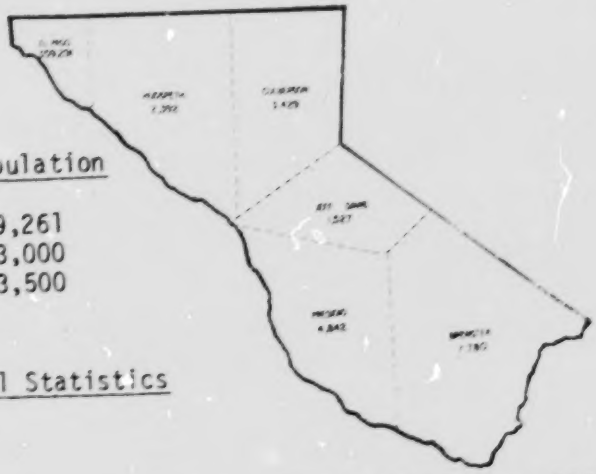
2. That an investigation be conducted into the feasibility of establishing an ADN program in the region if faculty and clinical resources are available.

3. Consideration be given to the establishment of a multiple entry and exit nursing program through the BSN level at one or in a consortium of the privately supported universities in Taylor county.

4. Emphasize the recruitment of qualified LVN's into RN programs.

REGION VIII: UPPER RIO GRANDE

County Population: 1970



Projected Population

1970	379,261
1980	463,000
1990	573,500

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	786
Need to add by 1980:	855
Total RN's needed by 1980:	1,468
Ratio RN's/100,000 in 1973:	202
Ratio RN's/100,000 by 1980:	317

LVN Data

Active LVN's in 1972:	499
Ratio LVN's/100,000 in 1972:	128
Number of LVN programs:	3

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	1	551	98
ADN	1	80	33
Dip.	-	-	-
TOTAL	2	631	131

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	16	1,872	575	328	1 to 3	1 to 6
Nursing Homes	8	548	18	45	1 to 30	1 to 12

Texas' westernmost planning region consists of six counties along the upper Rio Grande, and of the total population of 379,261 in 1970, all but 20,000 were in El Paso County. The population is projected to increase by almost 200,000 by 1990, as shown above. Most of the increase will occur in El Paso County and three of the six counties will decline in population.

There are only two hospitals in the region outside El Paso County, one in Brewster County and another in Culberson. There are 16 in El Paso with two of them in the 300-499 size range. Total number of hospital beds is 1,872 and there are 575 RN's and 328 LVN's employed in them.

Thre are eight nursing homes in the region. All but one of them are in El Paso, and they have a total of 548 beds. There are 18 RN's and 45 LVN's employed in these homes. The low aging index for the region accounts for the small number of these facilities. Only 22,555 of the 1970 population of 379,216 in 1970 were 65 or older.

There were 866 active and 309 inactive RN's in the region in 1972 with the FTE-RN's totaling 786. While the number of RN's employed in hospitals, full or part-time, was 575, the FTE-RN's in hospitals was 515.

The educational level of the RN's in the region is somewhat low, with 612 of the 866 indicating they did not have a degree.

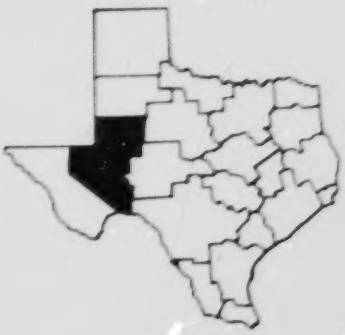
There are 202 FTE-RN's for every 100,000 population in the region, which ranks ninth among the 21 regions. At the current rate of supply, the region will have a potential surplus of 411 RN's by 1980. However, under the optimum ratios of the Nursing Project, a deficit of 122 is projected. This deficit can be overcome by modest increases in enrollments in the existing RN programs in El Paso.

There are two professional nurse programs in the region, both in El Paso. Enrollment in the BSN program at UT-El Paso School of Nursing in 1973 was 551 students and the ADN program at El Paso Community College had total enrollment of 80 students. The total enrollment was 631, with 131 seniors. In addition, there are three LVN programs, one in Brewster County and two in El Paso.

In order for Region VIII to produce the 122 additional RN's needed to meet the optimum ratios, the Nursing Project recommends:

1. The two existing registered nurse programs increase enrollments to produce an additional 25 graduates per year to 1980.

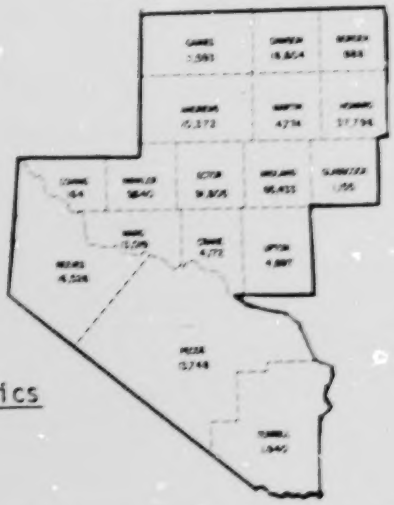
REGION IX: PERMIAN BASIN



Projected Population

1970	304,326
1980	345,300
1990	382,200

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	474
Need to add by 1980:	628
Total RN's needed by 1980:	985
Ratio RN's/100,000 in 1973:	153
Ratio RN's/100,000 by 1980:	276

LVN Data

Active LVN's in 1972:	956
Ratio LVN's/100,000 in 1972:	309
Number of LVN programs:	7

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	1	104	49
Dip.	-	-	-
TOTAL	1	104	49

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	22	1,331	342	690	1 to 4	1 to 2
Nursing Homes	16	1,199	16	91	1 to 75	1 to 13

Region IX is a big, 17 county region in West Texas whose 1970 population of over 300,000 is projected to increase to over 382,000 by 1990. Over half of the 1970 population was in Ector and Midland counties, and Ector County is expected to increase from almost 92,000 in 1970 to over 159,000 by 1990.

There are 520 active and 185 inactive RN's in the region for a 74 percent activity rate, one of the best in the state. When the FTE-RN's are computed among full

and part-time nurses, the region has 474. The FTE-RN ratio is 153 per 100,000 population, which is fifteenth among the 21 regions.

Despite the high activity rate of RN's, they are outnumbered in hospital employment, where 342 RN's and 690 LVN's are employed in hospitals having a total of 1,331 beds.

The region has a low aging index which helps account for the region having only 16 nursing homes (1,199 beds) which employ 16 RN's and 91 LVN's.

The region has only one registered nurse program, an ADN program at Odessa College. In 1973, the program had 104 students enrolled. There are also seven LVN programs, including one in Odessa College which had 44 students enrolled in 1973.

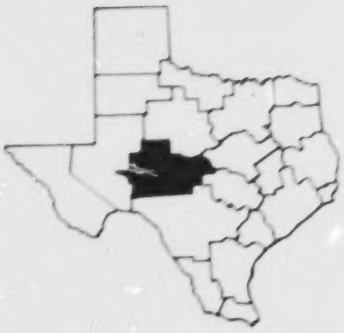
The existing supply pattern for RN's for Region IX will not provide enough RN's to meet the level recommended by the Nursing Project; the region will be short by 221 RN's. It is important that the number of RN's be increased in this region so that the LVN dominance can be reversed.

In order that the 221 RN's be produced in addition to those projected under current supply patterns, the Nursing Project recommends that:

1. The existing ADN program in the region expand its enrollment by 40 percent by utilizing extended clinical campuses, when appropriate, to supply regional needs for nurses.

2. BSN courses be made available to nurses within the region should interest and potential participation by nurses within the region be high enough. These courses can be imported from an existing BSN program.

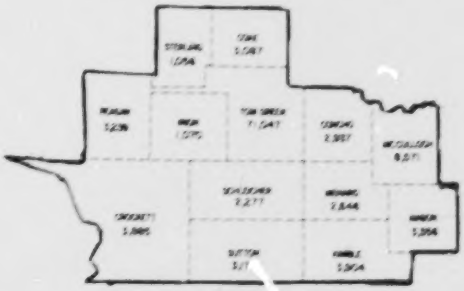
REGION X: CONCHO VALLEY



Projected Population

1970	110,550
1980	116,600
1990	109,400

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	277
Need to add by 1980:	391
Total RN's needed by 1980:	580
Ratio RN's/100,000 in 1973:	227
Ratio RN's/100,000 by 1980:	464

LVN Data

Active LVN's in 1972:	489
Ratio LVN's/100,000 in 1972:	389
Number of LVN programs:	3

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	1	207	54
Dip.	-	-	-
TOTAL	1	207	54

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	16	920	185	305	1 to 5	1 to 3
Nursing Homes	20	1,169	16	65	1 to 58	1 to 18

The population of Region X is projected to increase slightly to 1980 and then decline by some 7,000 to 1990. The 13 counties are rural with the exception of Tom Green County (San Angelo) which had almost 65 percent of the region's population in 1970 and is projected to increase from over 71,000 in 1970 to 85,000 by 1990.

There are 305 active and 119 inactive RN's in the region and some 277 FTE-RN's. There are 176 RN's and 305 LVN's employed in hospitals in the region which have 920 beds. The aging index of the region is quite high and there are 16 RN's and 65 LVN's employed in 20 nursing homes having 1,169 beds.

At the present time, the FTE-RN ratio is 221 per 100,000 population, and this is fourth among the 21 regions. Under the optimum ratios adopted by the Nursing Project to provide more RN's, the existing supply pattern for the region will provide all but 56 nurses.

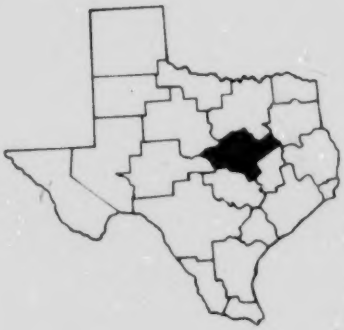
There is one registered nurse program in the region. Angelo State University offers the ADN program and in 1973 the enrollment totaled 207 students. There are three LVN programs in the region and one of them, in the San Angelo Independent School District, enrolled 71 students in 1973.

The region can make some upward adjustments in enrollment and meet the optimum ratio needs as projected by the Nursing Project. It is therefore recommended that:

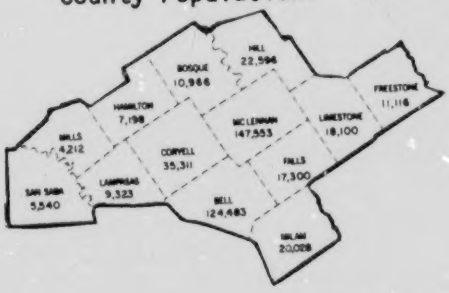
1. Enrollment in the ADN program be increased by 1975 so as to increase the number of additional graduates by approximately 11 per year.

2. BSN courses should be made available within the region provided the potential for improvement is shown by nurses within the region. These courses can be imported by an existing school of nursing.

REGION XI: CENTRAL TEXAS



County Population: 1970



Projected Population

1970	433,726
1980	433,500
1990	435,700

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	967
Need to add by 1980:	856
Total RN's needed by 1980:	1,576
Ratio RN's/100,000 in 1973:	221
Ratio RN's/100,000 by 1980:	367

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	1	182	37
ADN	2	277	115
Dip.	-	-	-
TOTAL	3	459	152

LVN Data

Active LVN's in 1972:	1,272
Ratio LVN's/100,000 in 1972:	291
Number of LVN programs:	10

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	LVN's	Ratios to Beds of RN's	LVN's
Hospitals	30	2,220	756	742	1 to 3	1 to 3
Nursing Homes	66	4,819	70	337	1 to 69	1 to 14

General population of the Central Texas region is projected to remain stable to 1990, with a slight increase of about 2,000 from 1980 to 1990. Except for McLennan (Waco) and Bell counties, which had about 63 percent of the region's population in 1970, most of the counties are rural and most are expected to decline in population over the next 15 years.

Region XI has 1,062 active and 389 inactive RN's and the FTE-RN's total 967. There are 678 RN's and 742 LVN's employed in hospitals having 2,220 beds. Most of the counties have a high aging index which explains the large number of nursing homes which have a total of 4,819 beds and employ 70 RN's and 337 LVN's.

The region currently has a FTE-RN ratio of 221 RN's per 100,000 population and the existing supply pattern is adequate not only to meet the optimum ratio but to exceed the needed number by 21 RN's.

Region XI has excellent health care facilities and has previously provided for professional nurse education to meet its needs at the basic program level.

There are three professional nurse programs available: a BSN program at Mary Hardin-Baylor College (Belton) and ADN programs at Central Texas College (Killeen) and McLennan Community College (Waco). In the fall of 1973, enrollments in these programs totaled 459. There are also 10 LVN programs in the region.

The Nursing Project has identified needs in Region XI as more RN's in the rural areas and emphasis on nursing care of older people. It is therefore recommended that:

1. Existing programs should place particular emphasis on the general recommendations in the field of geriatrics and rural clinical experience.

2. Emphasize recruitment of qualified LVN's into RN programs.

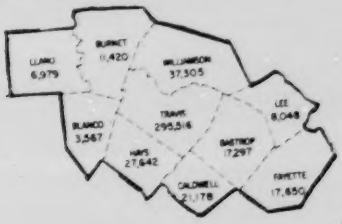
3. As the RN:population ratio improves in the region, consideration should be given to the consolidation of the smaller LVN programs.

REGION XII: CAPITOL

Projected Population

1970	446,602
1980	485,300
1990	544,600

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	1,076
Need to add by 1980:	552
Total RN's needed by 1980:	1,388
Ratio RN's/100,000 in 1973:	236
Ratio RN's/100,000 by 1980:	286

LVN Data

Active LVN's in 1972:	912
Ratio LVN's/100,000 in 1972:	200
Number of LVN programs:	6

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	1	944	182
ADN	-	-	-
Dip.	1	161	41
TOTAL	2	1,105	223

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	22	1,735	785	469	1 to 2	1 to 4
Nursing Homes	37	3,731	45	223	1 to 83	1 to 17

In 1970, Travis County had over 66 percent of the total population of over 446,000 in Region XII. The other nine counties are predominantly rural and therefore the best health care facilities are in Travis County.

The charts shown above indicate that this region has excellent ratios of RN's to hospital beds, for example, and its FTE-RN's to population is 236, among the best in the state. The comparative low level of RN's in nursing homes is characteristic of nursing homes in all regions of Texas but the ratio of one RN to every 83 beds is better than most of the other regions.

If the current supply pattern remains stable, Region XII will have no difficulty in meeting the optimum ratios of the Nursing Project. If employment opportunities are not increased, the region may have an excess of over 200 RN's by 1980. The surveys of the Nursing Project have shown that the general preference of RN's for urban and large hospital employment could contribute to an oversupply in the urban area of this region.

There are two professional nursing programs available, both in Austin. The University of Texas School of Nursing offers the BSN and Brackenridge Hospital, in cooperation with the Austin Community College, offers the diploma program. In 1973, the enrollments of these two programs totaled 1,105 students, including 223 seniors.

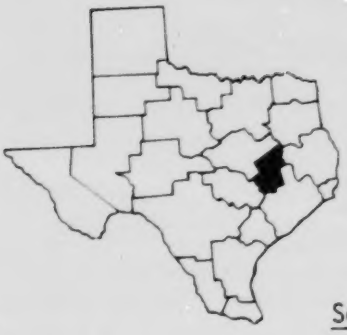
In order that the maximum utilization of educational resources in the urban areas be made available throughout the region and to improve the level of nursing care in the rural areas, the Nursing Project recommends that:

1. The existing nursing programs adopt the recommendations in the field of geriatrics and rural clinical experience as high priorities.

2. The consolidation of LVN programs as the RN:population ratio improves.

3. Adjustment of enrollments in all types of nursing programs as needed to maintain the desired RN and LVN to population ratios.

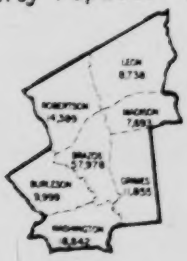
REGION XIII: BRAZOS VALLEY



Projected Population

1970	129,494
1980	127,400
1990	126,200

County Population: 1970



Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	204
Need to add by 1980:	184
Total RN's needed by 1980:	347
Ratio RN's/100,000 in 1973:	155
Ratio RN's/100,000 by 1980:	272

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	-	-	-
Dip.	-	-	-
TOTAL	-	-	-

LVN Data

Active LVN's in 1972:	256
Ratio LVN's/100,000 in 1972:	194
Number of LVN programs:	2

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	8	462	146	144	1 to 3	1 to 3
Nursing Homes	15	1,332	11	11	1 to 121	1 to 20

Six of the seven counties in Region XIII are projected to decline in population over the next 15 years while the seventh county, Brazos, which had about 45 percent of the region's population in 1970, is expected to increase from nearly 58,000 in 1970 to over 74,000 by 1990. Texas A&M University is located in Brazos County and this major institution accounts for a large share of the population. The region as a whole is considered rural and contains fewer health care facilities than some other regions of similar characteristics.

There are 232 active and 104 inactive RN's in the region and the FTE-RN count is 204. The FTE-RN ratio to population is 155 per 100,000, and ranks fourteenth among the 21 regions.

There are eight hospitals in the region and they have a total of 462 beds. Excellent ratios in RN-LVN staffing exist in these hospitals on a regional basis as 146 RN's and 144 LVN's are employed in them. The region as a whole has a high aging index which partially accounts for the 15 nursing homes, with a total of 1,332 beds and which employ 11 RN's and 65 LVN's.

The most serious problem in the region is the low number of RN's working in nursing homes. This problem exists throughout all regions of the state and the optimum ratios are designed to provide more RN's for employment in this important area of health care. The current ratio of RN's to nursing home beds in this region is one to every 121 beds. The Nursing Project is recommending one to every 15 beds.

There are no schools for registered nurses in Region XIII. The supply pattern for the region, especially Brazos County, is considered to be attributable, in part, to the nurses who are wives of students or employees of Texas A&M University. There are two programs for LVN's, one in Brenham (Washington County) at Blinn College and one in the Bryan public schools. In 1973, they had combined enrollments of 63 students.

The projections of the Nursing Project show that with the present supply pattern for RN's remaining stable, the region will need only an additional 54 RN's by 1980 to meet the optimum needs as recommended by the Nursing Project. This amounts to about eleven new nurses per year beyond the present supply and the Project concludes this number could be recruited without the necessity to establish a new program.

To provide the increased number of RN's, especially in nursing homes, the Nursing Project recommends:

1. Efforts be made by employers, especially nursing homes, to recruit RN's.

2. Continuing education courses be made available to qualified LVN's within the region to improve knowledge and skills and which can apply toward an RN curriculum.

3. Encourage and emphasize geriatric courses and training for all nurses in the region.

REGION XIV: DEEP EAST TEXAS

Projected Population

1970	245,832
1980	276,800
1990	305,700

County Population: 1970

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	267
Need to add by 1980:	664
Total RN's needed by 1980:	864
Ratio RN's/100,000 in 1973:	109
Ratio RN's/100,000 by 1980:	312

LVN Data

Active LVN's in 1972:	767
Ratio LVN's/100,000 in 1972:	307
Number of LVN programs:	6

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	*	-	-
ADN	1	179	64
Dip.	-	-	-
TOTAL	1	179	64

*An upper level BSN program was approved in 1974 for Stephen F. Austin State University

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	20	1,192	186	499	1 to 6	1 to 2
Nursing Homes	29	1,934	15	136	1 to 129	1 to 14

Population in the 13 counties of Region XIV is generally distributed throughout the region, with about 35 percent of the total population in Nacogdoches and Angelina counties. The population is projected to increase from almost 246,000 in 1970 to nearly 306,000 by 1990. Some 14 percent of the population is 65 years of age or older and the region has a high aging index.

This region is located in the piney woods section of East Texas and the climate and other factors cause it to be one of the more desirable retirement areas of the state. It does not contain any of the very large cities characteristic of the coastal, high plains, and north central areas of the state. There are 20 hospitals in the region with 1,192 beds and 29 nursing homes with 1,934 beds.

There are 302 active and 130 inactive RN's in the region and the FTE-RN's total 267. Ratio to population is 109 per 100,000, which ranks very low among the 21 regions. Some 31 percent of the active RN's are over 50 years of age.

Nursing care in the region is dominated by LVN's, with a ratio of 307 per 100,000. There are 186 RN's and 499 LVN's employed in the hospitals which have, as shown on the preceding page, 1,192 beds. The nursing homes in the region employ 15 RN's and 136 LVN's for the 1,934 beds.

Until recently there was only one professional nurse program in the region, an ADN program at Angelina College in Lufkin, which had 179 students enrolled in 1973. A new upper level BSN program has recently been approved for Stephen F. Austin State University and will be implemented in 1975. There are six LVN programs in the region.

This region has had difficulty in retaining RN graduates in the region and the upper level BSN program is expected to improve the retention rate. In the past there has been a deficiency of clinical resources but new construction of hospitals, currently underway, will improve clinical resources in the region.

Under the traditional supply pattern the region is projected to have a deficiency of 509 RN's by 1980 under the Nursing Project's optimum ratios. It is anticipated that the new BSN program at Stephen F. Austin State University will contribute to an improvement in this projected deficiency.

So that the necessary improvement of the numbers of RN's needed can be brought about, the Nursing Project recommends:

1. Emphasis be placed on providing continuing education for LVN's in the region.

2. Increase the enrollment in the ADN program at Angelina College to increase the number of RN graduates.

3. That Angelina College explore with Stephen F. Austin State University the formation of a consortium to provide the benefits of the multiple entry and exit curriculum for nursing students in the region.

REGION XV: SOUTH EAST TEXAS

County Population: 1970

Projected Population

1970	315,943
1980	352,300
1990	379,300

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	674
Need to add by 1980:	1,003
Total RN's needed by 1980:	1,529
Ratio RN's/100,000 in 1973:	208
Ratio RN's/100,000 by 1980:	434

LVN Data

Active LVN's in 1972:	894
Ratio LVN's/100,000 in 1972:	276
Number of LVN programs:	3

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	1	46	-
Dip.*	1	45	45
TOTAL	1	91	45

*This program was phased out in 1973.

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	11	2,035	421	612	1 to 5	1 to 3
Nursing Homes	13	2,260	20	110	1 to 113	1 to 21

One of the most intensively populated industrial regions in the state and located in extreme southeast Texas, Region XV has only two counties with almost 78 percent of the 1970 population of nearly 316,000 located in Jefferson County (Beaumont). The population is projected to increase to over 379,000 by 1990.

Statistically, the region has 764 active and 277 inactive RN's and the FTE-RN's total 674. Over one-third (34.03 percent) of the active RN's are less than 39 years of age while less than one-third (29.97 percent) are over fifty years of age. The region has a very low aging index with both counties below the state average.

The current FTE-RN ratio of 208 per 100,000 population ranks seventh among the 21 regions. In order for the region to come up to the FTE-RN ratio of 434 RN's per 100,000 by 1980, as depicted on the chart shown above, an additional 1,003 RN's will be needed by that date.

The region has eleven hospitals which have a total of 2,035 beds and they employ 421 RN's and 612 LVN's. There are also 14 nursing homes with a total of 2,260 beds and which employ 20 RN's and 110 LVN's. Throughout the region there are 25,264 persons who are 65 years of age or older. The ratios of nurses to beds are shown above.

There is only one program for registered nurses in the region, an ADN program at Lamar University in Beaumont. The program is less than two years old and has, in effect, replaced a diploma program that has phased out in one of the Beaumont hospitals. Current enrollment in the Lamar University ADN program is 105 students. There are also three LVN programs in the region.

In order to bring the number of RN's up to the optimum by 1980, as recommended by the Nursing Project, the existing program at Lamar University will need to increase enrollment. Elsewhere in the state, the second year classes of ADN programs had from 26 to 176 students and the program at this institution will have to become one of the larger ADN programs in Texas.

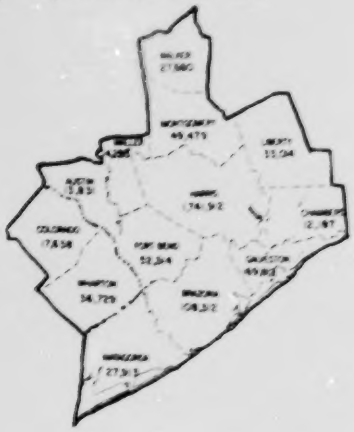
In order for the region to meet the optimum ratios of the Nursing Project and to improve the educational level of the active nurses, the Project recommends that:

1. The existing ADN program at Lamar University increase its enrollment over the next two years in order to graduate approximately 150 students per year.

2. The recommendations for providing continuing education courses for the professional and vocational nurses in the region be implemented.

REGION XVI: GULF COAST

County Population: 1970



Projected Population

1970	2,305,100
1980	2,821,900
1990	3,473,900

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	5,899
Need to add by 1980:	6,495
Total RN's needed by 1980:	11,344
Ratio RN's/100,000 in 1973:	255
Ratio RN's/100,000 by 1980:	402

LVN Data

Active LVN's in 1972:	5,445
Ratio LVN's/100,000 in 1972:	229
Number of LVN programs:	13

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	7	1,455	458
ADN	4	847	379
Dip.	-	-	-
TOTAL	11	2,302	837

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	83	14,112	4,363	3,718	1 to 3	1 to 4
Nursing Homes	88	9,064	183	582	1 to 50	1 to 16

Region XVI is the second largest region in the state in population with over 2.3 million in 1970 and is projected to increase to 3.4 million by 1990. Most of the population is concentrated in Harris County (1.7 million in 1970) which had almost 76 percent of the region's population.

The region has extensive and complex array of medical schools and medical centers and virtually every health profession is represented in the vast system of educational programs. The city of Houston in particular is a popular location for medical, dental, and allied health practitioners because of the sophisticated facilities, variety of types of patients, and employment opportunities.

On the perimeter of this complex in Harris and Galveston counties are eleven additional counties which are more rural than urban in type. Statistics which apply to regions consisting of both rural and urban counties do not always reflect the true conditions in each county.

Region XVI has 6,607 active and 2,389 inactive RN's. The FTE-RN's total 5,899 and the ratio of active RN's to population is 255 per 100,000 which is the highest in the state.

The region has approximately 83 hospitals of all types and sizes with 52 of them in Harris County. These hospitals employ 4,363 RN's and 3,718 LVN's and the total number of hospital beds is 14,112.

In addition, there is a total of 88 nursing homes in the region and 51 of those are in Harris County. These facilities have a total of 9,064 beds and employ 183 RN's and 582 LVN's. Population statistics indicate that the region has over 150,000 persons who are 65 years of age or older. Ratios of both professional and vocational nurses to beds in hospitals and nursing homes are shown above.

Educational programs for nurses are available within the region but concentrated in Harris County. There is a total of twelve registered nurse programs, seven of them baccalaureate and five at the ADN level. Three of the BSN programs are in the private sector: Dominican College, Houston Baptist University, and the University of St. Thomas. The four publicly supported BSN programs offer only the third and fourth (clinical) years of the four year program. Prairie View A&M University, located in Waller County, provides the third and fourth years of its program in Harris County. Texas Woman's University, which also has a clinical division in Dallas (Region IV), has a clinical division in Houston in the Texas Medical Center. The University of Texas System School of Nursing operates clinical divisions in Galveston and Houston.

At the ADN level, programs are offered at Alvin Junior College, College of the Mainland, Galveston College (with a coordinate branch at Brazosport Community College), and at San Jacinto College. Enrollments, including the number of seniors in 1973, are shown on the preceding page.

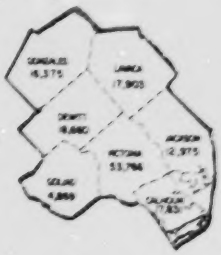
In addition to these registered nurse programs there are some 13 LVN programs in the region.

Educational and clinical resources for nurses are adequate for producing the increased needs in the region provided the Nursing Project's recommendations on rural clinical experience are implemented and sustained efforts are put forth by the nursing educators to help meet the needs of the region outside the major metropolitan area. The nurse population is growing at a more rapid rate than the general population and unless the distribution of RN's throughout the region improves, the Houston area will have an oversupply. The Nursing Project therefore recommends:

1. The general recommendations in geriatric and rural clinical experience be adopted by existing nursing programs as top priorities.

REGION XVII: GOLDEN CRESCENT

County Population: 1970



Projected Population

1970	142,379
1980	139,900
1990	138,200

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	186
Need to add by 1980:	388
Total RN's needed by 1980:	525
Ratio RN's/100,000 in 1973:	146
Ratio RN's/100,000 by 1980:	417

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	1	-	-
Dip.	-	-	-
TOTAL	1	-	-

LVN Data

Active LVN's in 1972:	549
Ratio LVN's/100,000 in 1972:	431
Number of LVN programs:	6

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	13	828	129	338	1 to 7	1 to 2
Nursing Homes	17	1,405	17	101	1 to 83	1 to 14

The seven counties in Region XVII are located in the middle of the Texas coast and are predominantly rural in economy and in population. Victoria County, with nearly 54,000 population in 1970 is the most populous county in the region and, with Calhoun County, is projected to increase in population to 1990. In 1970, these two counties had just over 50 percent of the population of the region.

There are 209 active and 78 inactive RN's in the region. Over one-third of the active RN's are 50 years of age or older while almost 57 percent are less than 50 years of age.

As shown in the data charts on the preceding page, the FTE-RN ratio is 146 per 100,000 population, which ranks eighteenth among the 21 regions. Under the optimum levels recommended by the Nursing Project, the target ratio for 1980 is 417 FTE-RN's per 100,000 population.

As shown above, there is a deficiency of RN's in hospitals and nursing homes. The region has a high aging index and there are 16,836 residents who are 65 years of age or older.

The region has not had a program for the education of registered nurses. In September of 1974, final approval was granted Victoria College to initiate an ADN program and the first students will be enrolled in 1975. The program will not graduate its first class until 1977. Surveys of the Nursing Project show that most of the nursing students from this region who go to other regions for their education do not intend to return here to practice.

The region has six LVN programs in five of the counties in the region and the lack of an RN program is shown in the high number of these graduates working in hospitals and nursing homes.

Under the optimum levels of professional nurses recommended by the Nursing Project, the region will need to acquire 388 additional RN's beyond those provided through the existing supply pattern. It is anticipated that the new ADN program at Victoria will make a substantial contribution to this number.

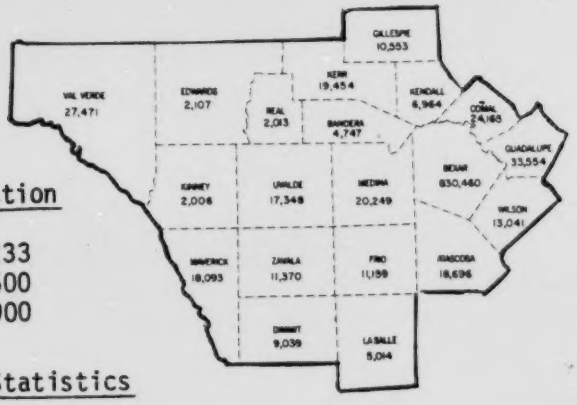
With the new program already approved, the Nursing Project submits the following recommendations to improve the quality of nursing care and provide educational improvement for nurses within the region:

1. The new ADN program at Victoria College emphasize recruitment of qualified LVN's and persons with prior nursing education or experience into the ADN program, especially during the first few years of its operation.

2. Emphasis be placed upon continuing education for the LVN's in the region.

REGION XVIII: ALAMO

County Population: 1970



Projected Population

1970	1,087,233
1980	1,195,500
1990	1,290,900

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	2,402
Need to add by 1980:	2,420
Total RN's needed by 1980:	4,273
Ratio RN's/100,000 in 1973:	208
Ratio RN's/100,000 by 1980:	348

LVN Data

Active LVN's in 1972:	2,597
Ratio LVN's/100,000 in 1972:	225
Number of LVN programs:	11

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	2	517	169
ADN	1	243	78
Dip.	1	114	49
TOTAL	4	874	296

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	36	8,412	1,665	1,827	1 to 5	1 to 4
Nursing Homes	62	5,495	176	390	1 to 31	1 to 14

As in most of the large geographic regions of the state, the Alamo region has one dominant county with over 76 percent of the region's population. The 20 counties in Region XVIII include Bexar County (San Antonio) whose population in 1970 was over 830,000 and is projected to grow to almost one million and the region's population will increase to 1.3 million by 1990. Seven of the 20 counties are to experience a decline in population by 1990. This is the largest geographic region and is located in the southwestern part of the state, with its western edge along the Rio Grande.

There are 2,660 active and 1,188 inactive RN's in the region and most of them are in Bexar County. FTE-RN's total 2,402 and over 64 percent (1,665) of them are employed in hospitals. The FTE-RN's in the region total out to 208 per 100,000, which ranks seventh among the 21 regions. The ratio for optimum levels of RN's for 1980 is 348, as shown above. With the existing supply pattern remaining stable, the region will need only 221 additional RN's beyond those expected to be in the region by 1980.

As displayed above, the Alamo region has 36 hospitals, 18 of them in Bexar County. They have 8,412 beds and employ 1,665 RN's and 1,827 LVN's. There are 62 nursing homes in the region and 33 of them are in Bexar County. They employ 176 RN's and 390 LVN's for the 5,495 nursing home beds. The high aging index is reflected in the large number of nursing homes and there are 93,311 persons in the region who are 65 years of age or older.

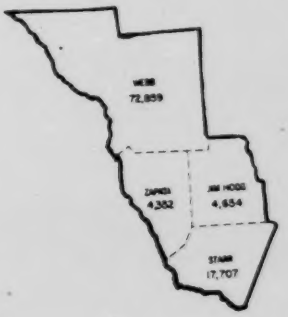
San Antonio has extensive and complex medical and health education resources. There are two BSN programs for professional nurses, one at The University of Texas School of Nursing and the other is at Incarnate Word College. A third professional route is a diploma program at Baptist Memorial Hospital. In addition to these programs, there is an ADN program offered at San Antonio College. Combined enrollments of these four programs in 1973 was 874 and 296 were seniors.

There are eleven LVN programs in the region in various locations. One of these, located at St. Philip's College in San Antonio, reported 1973 enrollment of 286 students.

There appears to be no problem of supply of RN's in the metropolitan area of this region and the general recommendations on clinical experience in rural settings and continuing education for LVN's should lead to meeting the needs of the region. Upon adoption of the optimum ratios, the registered nursing programs would need to increase enrollments so as to produce the additional 221 RN's needed by 1980.

REGION XIX: SOUTH TEXAS

County Population: 1970



Projected Population

1970	103,065
1980	134,100
1990	157,400

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	106
Need to add by 1980:	195
Total RN's needed by 1980:	286
Ratio RN's/100,000 in 1973:	101
Ratio RN's/100,000 by 1980:	213

LVN Data

Active LVN's in 1972:	178
Ratio LVN's/100,000 in 1972:	169
Number of LVN programs:	1

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	1	58	26
Dip.	-	-	-
TOTAL	1	58	26

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	2	258	48	118	1 to 5	1 to 2
Nursing Homes	3	266	3	22	1 to 88	1 to 12

The South Texas Region is made up of four counties along the Rio Grande in Southwest Texas. Almost 71 percent of the 1970 population of over 103,000 was in Webb County. Most of the region's projected growth to 1990 is expected to occur in Webb County. Laredo, in Webb County, the principal city in the area, is an international port of entry from Mexico and there is a strong Mexican-American cultural influence throughout the region as over 50 percent of the population is Mexican-American.

There are 112 active and 28 inactive RN's in the region with FTE-RN's totaling 106. There are only two hospitals in the region and they have a total of 258 beds. They employ 48 RN's and 118 LVN's. The FTE-RN ratio of 101 to 100,000 population is the lowest of the 21 regions and is attributable, in part, to lack of employment opportunities.

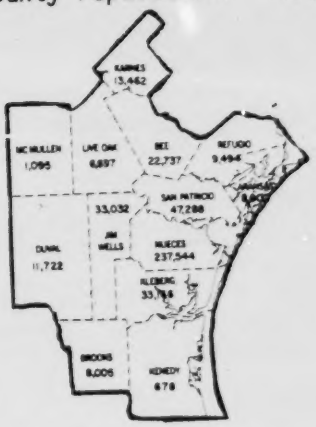
There are three nursing homes in the region, all in Laredo, with a total of 266 beds. These homes employ three RN's and 22 LVN's. The region has a low aging index and there are only 8,181 persons 65 years of age or older.

Region XIX has one program for registered nurses and one LVN program, both at Laredo Junior College. Enrollment in the RN program in 1973 was 58 students. Courses at the BSN level have been brought into the Laredo area during the past year by The University of Texas Nursing School at San Antonio but the number of students seeking nursing courses beyond the ADN level has been minimal.

In a region having minimal health care facilities, the lowest ratio of RN's to population of any region, and limited employment opportunities for nurses, the unusual condition of meeting the optimum ratios of the Nursing Project can be met and exceeded under the existing supply pattern. This is illustrated in that the supply pattern now in operation (including the ADN program at Laredo Junior College) will, by 1980, produce 63 more nurses than are needed to meet the optimum requirements. The need for faculty improvement courses can be provided through continuing education which is a general recommendation for most regions presented elsewhere in this report. Work toward the baccalaureate degree, currently being provided by The University of Texas on a temporary basis, can be provided through Texas A&I University at Laredo which has an upper level BSN program on its Corpus Christi campus.

REGION XX: COASTAL BEND

County Population: 1970



Projected Population

1970	433,822
1980	478,200
1990	520,200

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	667
Need to add by 1980:	1,040
Total RN's needed by 1980:	1,537
Ratio RN's/100,000 in 1973:	152
Ratio RN's/100,000 by 1980:	330

LVN Data

Active LVN's in 1972:	1,364
Ratio LVN's/100,000 in 1972:	311
Number of LVN programs:	2

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	*	-	-
ADN	1	140	60
Dip.	-	-	-
TOTAL	1	140	60

*An upper level BSN program was approved in 1974 for Texas A&I University at Corpus Christi

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	21	2,919	448	963	1 to 7	1 to 3
Nursing Homes	27	2,351	26	134	1 to 90	1 to 18

Located on the lower Texas coast, the 13 counties of Region XX had a 1970 population of almost 434,000 with about 55 percent of it in Nueces County, which also is the location of Corpus Christi, largest city in the region. Seven of the counties are projected to decline in population by 1990, but the remaining six are projected to increase with the greatest amount of growth in Nueces County.

The region has a blend of large areas that are sparsely populated and the urban concentration of population and health care facilities found throughout most regions of the state.

There are many excellent health care facilities in Corpus Christi. There are 21 hospitals in the region and four of those which are in Corpus Christi have 500 or more beds. As shown above, the hospitals employ 448 RN's and 963 LVN's while the 27 nursing homes employ only 26 RN's and 134 LVN's. Nine of the 27 nursing homes are in Corpus Christi.

The aging index for the region is low, with seven counties below the state average. In 1970, there were 31,345 persons resident in the region who were 65 years of age or older.

There are 737 active and 268 inactive RN's in the region and the FTE-RN count is 557. Nearly 63 percent of the nurses in the region are less than 50 years of age.

The current FTE-RN ratio to population is 152 per 100,000, which is seventeenth among the 21 regions. In order to meet the optimum ratios of the Nursing Project, the region will need, by 1980, some 336 more RN's than the region is expected to have under the existing supply system.

There is one registered nurse program in the region, an ADN program at Del Mar College. This program had 140 students enrolled in 1973. A new upper level BSN program was recently approved for Texas A&I University at Corpus Christi.

As in the other two regions where this type program has been established, it is expected to cause more ADN graduates to remain in the region to seek the BSN and practice locally, thereby increasing the total RN count, and also to improve the quality of health care. There are two LVN programs in the region, one of them at Del Mar College whose enrollment in 1973 was 120 students.

The Nursing Project recommends:

1. That the general recommendations on continuing education and rural clinical experience for nursing students be given high priority in Region XX.

2. That the upper level BSN program at Texas A&I University at Corpus Christi provide upper level courses to RN's in the Region XIX as the need for such courses is demonstrated. These courses should be under the administrative jurisdiction and control of the BSN program in Corpus Christi and facilities may be used, under appropriate arrangement, with Texas A&I University at Laredo or Laredo Junior College.

REGION XXI: LOWER RIO GRANDE VALLEY

County Population: 1970

Projected Population

1970	337,473
1980	297,300
1990	282,500

Selected Regional Statistics

FTE-RN's

Employed in 1972-73:	366
Need to add by 1980:	509
Total RN's needed by 1980:	761
Ratio RN's/100,000 in 1973:	105
Ratio RN's/100,000 by 1980:	256

RN Educational Information, 1973

Type Program	No.	Enroll.	No. of Seniors
BSN	-	-	-
ADN	2	127	49
Dip.	-	-	-
TOTAL	2	127	49

LVN Data

Active LVN's in 1972:	620
Ratio LVN's/100,000 in 1972:	178
Number of LVN programs:	5

Hospital and Nursing Home Information

Institution	No.	Beds	Staff Nurses RN's	Staff Nurses LVN's	Ratios to Beds of RN's	Ratios to Beds of LVN's
Hospitals	12	1,133	178	361	1 to 6	1 to 3
Nursing Homes	16	1,455	34	124	1 to 43	1 to 12

Region XXI is a three county area in extreme south Texas whose population is over 50 percent Mexican-American and whose economy is based largely on agricultural products. Brownsville, in Cameron County, is an international port of entry. In 1970, Hidalgo County had almost 54 percent of the population of the region and Cameron County had almost 42 percent. The region's population in 1970 was 337,473 and is projected to decline sharply to 1980, and have a slower decline to 1990.

The aging index is far below the state average; there are large families in the region which contributes to the youthful characteristic of the population.

As shown above, there are 12 hospitals in the Lower Rio Grande Valley region which employ 178 RN's and 361 LVN's. The 12 hospitals have 1,133 beds. There are 16 nursing homes with 1,455 beds and they employ 24 RN's and 124 LVN's. Public health is emphasized in this region and 45 RN's and 25 LVN's are employed in this activity.

Throughout the three counties there are 405 active and 156 inactive RN's and the FTE-RN count is 366. Some 55 percent (223) of the RN's are less than 50 years of age while almost 40 percent (160) are over 50.

For several years the only professional nurse program in the lower valley was an ADN program at Pan American University at Edinburg. Enrollment in that program in 1973 was 127 students. A second ADN program, approved in September of 1974 for Texas Southmost College in Brownsville, is expected to accept students within the next year. This new program should make a substantial contribution to professional nurse needs in this region.

The current FTE-RN ratio to population is 105 per 100,000, which ranks twentieth among the 21 regions. In order to meet the optimum number of RN's adopted by the Nursing Project, the region, by 1980, will be required to have an additional 509 RN's in addition to those being produced in the existing program. The optimum level for FTE-RN's by 1980 is 256 per 100,000 population. With two professional nurse programs in the region, this level can be reached with existing resources and supply patterns.

The Nursing Project recommends that:

1. The continuing education recommendations of the Nursing Project be given priority in the lower valley, especially for LVN's.

2. That the ADN programs at Pan American University and Texas Southmost College monitor their enrollments to avoid a potential oversupply until additional employment opportunities are available.

CHAPTER VI

A COOPERATIVE APPROACH FOR MEETING NURSING NEEDS IN TEXAS

The establishment of new professional nursing programs in the publicly supported sector of higher education comes under the statutory responsibility of the Board of Nurse Examiners for the State of Texas and also either the Coordinating Board or the Texas Education Agency. Programs in the public community colleges are funded through the Texas Education Agency and those in state senior institutions must have approval of the Coordinating Board. Programs in the private colleges and universities are not within the purview of either the Coordinating Board or the Texas Education Agency but the Board of Nurse Examiners does have jurisdiction.

Licensed Vocational Nurse programs are under the legal jurisdiction of the Board of Vocational Nurse Examiners and, in a publicly supported community college, the Texas Education Agency has funding, and therefore approval or disapproval authority.

While there is informal cooperation among these several licensing and funding agencies, there is no formal mechanism for coordination of nursing education programs, either professional or vocational, that involves all of the agencies. The level of cooperative effort varies from time to time and there is very little inter-agency exchange of information related to the quality of nursing programs. Exchange of such information is of importance to all agencies which either license the graduates, monitor the quality elements of the programs, or have approval and disapproval responsibility under Texas statutes.

A significant first step toward effective planning and coordinating nursing education in this state will require that the agencies having statutory responsibility over nursing programs have mutual access to information related to nursing needs, quality status of existing programs, and other vital information. In addition, decisions regarding nursing programs should be made on the basis of mutually acceptable criteria and should reflect progress toward specific goals.

This cooperation can take place without violation of the function or statutory responsibility of any agency because each of them must, in the carrying out of its professional and legal responsibility, be finally subject to its own statute.

So that the state can move toward a more carefully coordinated system of nursing education in this state, the Nursing Project Council submits the following:

RECOMMENDATION: A COMMITTEE BE ESTABLISHED, COMPOSED OF STAFF REPRESENTATIVES FROM THE BOARD OF NURSE EXAMINERS, THE BOARD OF VOCATIONAL NURSE EXAMINERS, THE COORDINATING BOARD, TEXAS COLLEGE AND UNIVERSITY SYSTEM, AND THE TEXAS EDUCATION AGENCY. THIS COMMITTEE WOULD REPRESENT THE AGENCY HEADS IN COORDINATING

THE IMPLEMENTATION OF THE RECOMMENDATIONS OF THE NURSING PROJECT. THE COMMITTEE SHOULD EMPHASIZE THE IMPROVEMENT OF EDUCATIONAL QUALIFICATIONS AND CLINICAL COMPETENCIES OF FACULTY IN PROFESSIONAL NURSING PROGRAMS.

Having taken the position that the most urgent need in nursing at this time is to improve the educational qualifications of nursing faculties, the Nursing Project submits the following:

RECOMMENDATION: A. IMMEDIATE PRIORITY SHOULD BE GIVEN TO GRADUATE EDUCATION FOR FACULTY MEMBERS IN PROFESSIONAL NURSING PROGRAMS.

B. EXPANSION OF EXISTING PROGRAMS AND APPROVAL OF NEW PROGRAMS SHOULD BE CONTINGENT UPON THE AVAILABILITY OF QUALIFIED FACULTY AND ADEQUATE CLINICAL FACILITIES.

The Council, aware of the increasing number of new graduates and licensees each year, believes the present number of professional nursing programs in most regions is adequate to produce the number of registered nurses needed in the state; however, increases in enrollments will need to occur in some programs to meet the optimum ratios recommended by the Nursing Project. The recommendations for increased enrollments and graduates and for more rural clinical experience for students will lead toward meeting part of the need; the maldistribution of professional nurses will not be solved until job opportunities become attractive enough in all areas of the state to cause RN's to want to practice in the non-urban areas.

Coordination of Continuing Education

The nursing profession recognizes the need for its practitioners to engage in a life-long learning process in order to maintain competence in a world of constantly expanding knowledge. With recent legislation in several states requiring evidence of continuing education for re-licensure, the urgency of making continuing education readily available to all nurses has been recognized.

A nationwide study of continuing education in nursing, published by the American Nurses Association in 1972, pointed out that numerous statewide studies had identified several problems that must be solved if continuing education needs in nursing are going to be met. Among the problems listed were the following:

a. The need for educational institutions and health agencies and organizations to assume a greater responsibility for providing continuing education.

b. The need to find ways to make continuing education available in rural areas or isolated professional locations.

c. The need to minimize unnecessary duplication.

d. The need for interdisciplinary programs.

e. The need for continuing education opportunities which can assist in upward career mobility.

The primary interest in continuing education by the Nursing Project was to recommend a mechanism which would provide the funds and the structure to accomplish the needed coordination of efforts within the state. The University of Texas Systemwide School of Nursing and Texas Woman's University College of Nursing were charged with the responsibility of statewide coordination of continuing education by the Coordinating Board in 1967. Although these two schools have made steady progress in this area, their available resources are inadequate for meeting the total needs of the state in the area of coordination under the present funding procedures.

In order to broaden the base of responsibility and provide additional resources in this area, it is recommended that:

RECOMMENDATION: THE COORDINATING BOARD DELEGATE JOINT RESPONSIBILITY FOR THE STATEWIDE COORDINATION OF CONTINUING EDUCATION FOR NURSING TO ALL STATE UNIVERSITIES OPERATING BACCALAUREATE NURSING PROGRAMS.

RECOMMENDATION: THE COORDINATING FUNCTIONS OF THE DESIGNATED UNIVERSITIES SHOULD INCLUDE THE FOLLOWING:

A. PROVISION OF A MECHANISM FOR PRIVATE COLLEGES AND UNIVERSITIES AND COMMUNITY COLLEGES OPERATING NURSING PROGRAMS TO HAVE A VOICE IN STATEWIDE PLANNING DECISIONS FOR CONTINUING EDUCATION IN NURSING.

B. IDENTIFICATION OF SPECIFIC CONTINUING EDUCATION NEEDS ON A LOCAL AND REGIONAL BASIS.

C. INVOLVEMENT OF APPROPRIATE INDIVIDUALS, AGENCIES, INSTITUTIONS, AND ORGANIZATIONS IN PLANNING TO MEET NEEDS WITH PARTICULAR EMPHASIS ON INVOLVEMENT AT THE LOCAL LEVEL.

D. LONG-RANGE PLANNING OF STATEWIDE CONTINUING EDUCATION OFFERINGS TO INSURE REDUCTION OF FRAGMENTATION AND DUPLICATION IN AVAILABLE PROGRAMS.

E. PROVIDE A CLEARINGHOUSE FOR CONTINUING EDUCATION PROGRAMS AVAILABLE TO NURSES.

F. PROVIDE AN INFORMATION DISSEMINATION CENTER FOR 1) PRINTING OF INFORMATION ABOUT PROGRAM OFFERINGS, AND 2) RESPONDING TO INQUIRIES CONCERNING AVAILABLE HARDWARE AND SOFTWARE IN THE STATE.

G. PROVIDE EVALUATION OF THE COURSES OFFERED IN CONTINUING EDUCATION IN ORDER TO IMPROVE THE QUALITY OF CONTINUING EDUCATION AND TO ASSURE THAT THE NEEDS OF PRACTICING NURSES ARE BEING MET.

RECOMMENDATION: FUNDS BE APPROPRIATED TO THE COORDINATING BOARD FOR THE COORDINATION OF CONTINUING EDUCATION IN NURSING; SUCH FUNDS TO BE DISTRIBUTED TO THE DISIGNATED UNIVERSITIES RESPONSIBLE FOR COORDINATION ACCORDING TO THE FOLLOWING CRITERIA:

A. THE COORDINATING BOARD AND IDENTIFIED UNIVERSITIES JOINTLY DEVELOP A PLAN TO ACCOMPLISH THE FUNCTIONS LISTED IN ITEMS A-G ON PAGE 123, AND DETERMINE THE SPECIFIC AREAS OF RESPONSIBILITY TO BE ASSUMED BY EACH INSTITUTION, AND SUBMIT THE PLAN, WITH SPECIFIC COSTS FOR EACH UNIVERSITY, TO THE COORDINATING BOARD.

B. CONTINUED FUNDING BE DEPENDENT ON EVIDENCE OF ACHIEVEMENT IN THE SPECIFIED AREAS OF COORDINATION.

Coordination of Off-Campus Courses

Because nursing practice usually requires that the nurse remain in one location and, as in hospitals, be subject to shift rotation, the ability for most active nurses to travel to distant locations to participate in educational programs is limited. The continuing education programs offered both on and off-campus by educational institutions, and the in-service training programs made available by employers have provided much needed improvement in the ability of nurses, but there are needs which are not being uniformly met across the state in nursing education.

The Nursing Project has identified substantial interest on the part of LVN's and RN's in furthering their nursing skills and in the quality of educational preparation. We also observed that several nursing programs were offering courses in off-campus locations where local nurses had shown an interest in taking such courses.

So that nurses throughout the state can be provided the opportunity to improve the quality of their nursing abilities and to take courses in nursing that would apply to a higher degree, the Nursing Project concluded that the state should be divided into regions so that nursing programs could provide the necessary courses on a carefully planned, non-duplicatory basis which would permit maximum utilization of nursing education resources in the off-campus settings.

RECOMMENDATION: THE COORDINATING BOARD ESTABLISH REGIONAL SENIOR COLLEGE AND UNIVERSITY COUNCILS FOR THE PURPOSE OF INSURING COORDINATION OF OFF-CAMPUS NURSING COURSES OFFERED THROUGHOUT THE STATE.

THE RESPONSIBILITIES OF SUCH COUNCILS TO BE:

A. TO MAKE RECOMMENDATIONS TO THE COORDINATING BOARD ON REQUESTS BY COLLEGES OR UNIVERSITIES WITHIN THE REGION TO OFFER OFF-CAMPUS COURSES.

B. TO MAKE RECOMMENDATIONS TO THE COORDINATING BOARD ON REQUESTS BY COLLEGES OR UNIVERSITIES IN OTHER REGIONS WHO WISH TO OFFER COURSES IN THE REGION..

C. PREPARE AND IMPLEMENT CRITERIA FOR EXCELLENCE IN CONDUCT OF OFF-CAMPUS COURSES.

D. TO INSURE THAT OFF-CAMPUS COURSES MEET A NEED WHICH CANNOT BE MET BY A COLLEGE OR UNIVERSITY IN THE AREA WHERE THE COURSES ARE TO BE TAUGHT.

E. TO FACILITATE INTER-INSTITUTIONAL COOPERATION IN THE CONDUCT OF OFF-CAMPUS COURSES AND TO ASSURE THAT EACH COLLEGE OR UNIVERSITY IN THE REGION HAS A RECORD IN ADVANCE OF THE COURSES AND LOCATIONS PLANNED IN THE REGION.

DEFINITION OF TERMS

DEFINITION OF TERMS

Associate Degree Program in Nursing

A program leading to an associate degree in nursing conducted by an educational unit in nursing within the structure of a junior or community college or senior college or university.

The purpose of an associate degree program in nursing is to prepare practitioners of nursing for licensure and employment in positions which require giving direct nursing care to patients in a hospital, or similar community agency.

Baccalaureate Program in Nursing

A program leading to a baccalaureate degree in nursing conducted by an educational unit in nursing (department, division, school or college) which is a part of a senior college or university.

The purpose of a baccalaureate program in nursing is to prepare professional nurse practitioners. The graduates have the potential for assuming leadership roles as well as a foundation for entrance into a graduate program in nursing.

Behavioral Objectives

Statements which describe what the learner will be able to do once learning has occurred.

Collaborate

Cooperate as a peer.

Conceptual Framework

A statement of combined faculty thinking about society, the learner, the nature of nursing practice, program objectives, and curriculum evaluation. A framework containing the philosophical and theoretical background fundamental to the design of the education program, created by faculty, to enable them to make consistent decisions about the curriculum.

Clinical Laboratory Experience

Planned learning experience which involves direct contact with patients/clients under the guidance of faculty.

Clinical Nurse Specialists

Nurses who are primarily clinicians with a high degree of knowledge, skill and competence in a specialized area of nursing. These are made directly available to the public through the provision of nursing care to clients and indirectly available through guidance and planning of care with other nursing personnel. Clinical nurse specialists hold a master's degree in nursing preferably with an emphasis in clinical nursing.

Clinical Nursing Practice

Performance of nursing duties by an RN or LVN in a job setting which involves direct contact with patients/clients.

Challenge Examination

A test taken by a student for the purpose of obtaining credit in a course before completing the course or without enrolling in the course.

Continuing Education in Nursing

Planned learning experiences beyond a basic nursing educational program. These experiences are designed to promote the development of knowledge, skills, and attitudes for the enhancement of nursing practice, thus improving health care to the public.

Credit, Transfer

Semester credit hours earned in one institution which transfer and apply toward degree requirements in another institution.

Curriculum

A program of courses fulfilling the requirements for a certificate, diploma, or degree in a particular field of study.

Multiple Entry-Exit Curriculum

A program of courses fulfilling the requirements for the nurse assistant, vocational nurse, associate degree nurses and baccalaureate degree nurse arranged in a logical sequence to allow for vertical mobility of students.

Diploma Program

A program leading to a diploma in nursing conducted by a single purpose school under the control of a hospital. The hospital which conducts an educational program in nursing shall be general in type and accredited by the Joint Commission on Accreditation of Hospitals.

The purpose of a diploma program in nursing is to prepare a nurse practitioner who is qualified to assume a beginning position in a hospital or similar community agency. Given opportunity and time, the graduate will be capable of directing nursing care for both individual patients and groups of patients.

Distributive Nursing

Nursing practice directed primarily toward health maintenance and disease prevention. Provision of distributive nursing care occurs most frequently in non-acute settings.

Episodic Nursing

Nursing practice which is essentially directed toward the curative and restorative aspects of acute or chronic health problems. Such practice is usually provided in a hospital or in-patient facility.

Levels of Practice

Variations in the scope of nursing knowledge and skills which the nurse is capable of applying to the delivery of patient care as a result of her educational preparation.

Professional Level of Practice

Implies the ability of the practitioner to utilize theories and principles from many sources to develop effective approaches to the management and delivery of nursing care. The professional practitioner is capable of exercising independent judgment in nursing care decisions related to health care problems ranging from simple to complex. Professional practice necessitates a broad general education base for which a baccalaureate degree in nursing is considered a minimum requirement.

Technical Level of Practice

Implies the ability of the practitioner to function within the framework of existing patterns of practice in the delivery of nursing care to patients with common, recurring health problems. Technical practice requires the exercise of skill and judgment in nursing care but at a level which should be under the supervision of a professional individual. The educational preparation for technical practice is a two-year program leading to the associate degree in nursing.

Nurse Clinicians

Have well-developed competencies in utilizing a broad range of cues. These cues are used for prescribing and implementing both direct and indirect nursing care and for articulating nursing therapies with other planned therapies. Nurse clinicians demonstrate expertise in nursing practice and insure ongoing development of expertise through clinical experience and continuing education. Generally minimal preparation for this role is the baccalaureate degree.

Nurse Practitioners

Have advanced skills in the assessment of the physical and psycho-social, health-illness status of individuals, families or groups in a variety of settings through health and development history taking and physical examination. They are prepared for these special skills by formal continuing education which adheres to ANA approved guidelines, or in a baccalaureate nursing programs.

Nursing Process

A systematic approach to the delivery of patient care which requires the nurse to assess needs, develop a plan of action based on assessment, implement the plan, and evaluate the results of nursing actions.

Primary Health Care

Giving health care to individuals or groups at an initial point in their illness in order to prevent serious illness or to maintain the individual's health status. The focus is primarily on prevention of illness, maintenance of well-

ness, and dealing with common, recurrent problems.

Primary Nursing

Provision of nursing services based on the concept of total responsibility and accountability of nursing care for the patient vested in one nurse. Primary nursing means that each patient has one nurse who is responsible for planning and evaluating his nursing care even though she does not actually give all care.

Professional Nursing Program

A two, three, or four year curriculum which prepares the student to become licensed as a registered nurse.

Service Area

The geographic area in which most of the graduates of a nursing program seek employment.

SMSA

Refers to Standard Metropolitan Statistical Area and consists of one or more central cities with 50,000 or more population surrounded by contiguous areas economically allied to them. There were 24 SMSA's in Texas in 1971.

Upper Division Nursing Major

A four-year program leading to a baccalaureate degree in which general education courses are taken during the freshman and sophmore years and nursing courses are begun in the junior year.

Upper Level Institutions

A college or university which offers courses at the junior and senior levels only.

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APPENDIX A

STATISTICAL DATA BY REGION

In this attachment we have included critical data for each region which has provided the statistical base for this report. The data on pages 147 and 148 show the ratios of types of nurses and physicians to population, the current and projected population, the percent of each region's population over 65 years of age, and the aging index for each region.

On these same pages we have presented in concise region-to-region format, the RN and LVN data, showing activity levels and percent working in the various employment settings.

The second category of statistical data, shown on pages 149 through 169, gives detailed information on activity status, age, level of educational preparation, and field of employment for RN's in 1971-72. These pages also include the projected number of RN's to 1980 on two levels: one under the current, or status quo rate of production, and the other under the optimum ratios adopted by the Nursing Project. For example, at the bottom of each page, we have shown current ratio of RN's per 100,000 population and below that, the optimum ratios for 1980.

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TEXAS PLANNING REGIONS

September 1971

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TEXAS STATE PLANNING REGIONS

	PLANNING REGIONS	ADN's POP.	DIPLOMA RN'S POP.	BSN'S POP.	NON-FED M.D.'S POP.	DIRECT PT. CARE M.D.'S POP.
1	Panhandle	17	215	16	78.4	72.7
2	South Plains	8	150	14	82.7	76.9
3	North Texas	18	160	13	95.5	87.5
4	North Central Texas	14	172	42	128.1	113.1
5	North East Texas	39	110	16	83.6	78.1
6	East Texas	14	126	16	87.6	80.5
7	West Central Texas	6	157	12	79.9	70.9
8	Upper Rio Grande	5	194	17	90.7	81.7
9	Permian Basin	30	119	11	76.6	72.6
10	Concho Valley	31	184	16	96.7	81.9
11	Central Texas	25	181	22	105.6	94.8
12	Capital	11	196	46	123.4	99.9
13	Brazos Valley	15	116	34	64.9	58.7
14	Deep East Texas	11	89	12	58.2	54.1
15	South East Texas	5	198	18	101.6	96.5
16	Gulf Coast	21	185	57	159.5	137.7
17	Golden Crescent	11	126	15	80.2	73.0
18	Alamo	14	167	38	122.7	100.0
19	South Texas	21	63	19	52.2	48.2
20	Coastal Bend	21	121	15	96.4	88.5
21	Lower Rio Grande	9	87	15	71.4	63.1
	STATE	16	165	34		
		11	12	13	14	15

TEXAS STATE PLANNING REGIONS

	PLANNING REGIONS	CURR. TOT. POP.	PROJ. POP. 1980	PROJ. POP. 1990	% POP. OVER 65	AGING INDEX
1	Panhandle	330.3	362.8	395.0	11.09	33.9
2	South Plains	327.8	418.3	467.3	10.34	29.8
3	North Texas	212.5	212.4	212.4	17.64	60.9
4	North Central Texas	2636.4	3147.3	3802.7	13.48	43.7
5	North East Texas	202.2	205.6	193.0	16.51	54.7
6	East Texas	436.1	451.6	453.4	15.34	49.3
7	West Central Texas	268.0	245.0	226.0	18.07	63.8
8	Upper Rio Grande	379.3	463.0	573.5	8.85	23.5
9	Permian Basin	304.3	357.0	383.2	7.02	18.2
10	Concho Valley	120.9	125.2	116.2	14.64	47.0
11	Central Texas	428.2	429.5	433.5	18.17	66.9
12	Capital	446.6	485.3	544.5	16.86	59.3
13	Brazos Valley	129.5	127.4	126.2	16.79	54.2
14	Deep East Texas	245.8	276.8	305.7	14.36	42.9
15	South East Texas	315.9	352.3	379.2	7.20	19.5
16	Gulf Coast	2305.1	2821.9	3473.9	9.92	30.0
17	Golden Crescent	126.0	125.8	125.9	12.95	39.1
18	Alamo	1124.3	1228.0	1316.4	13.00	36.4
19	South Texas	99.6	134.1	157.4	9.75	28.1
20	Coastal Bend	420.4	465.8	511.6	9.13	24.3
21	Lower Rio Grande	337.5	397.3	282.5	8.23	18.8
		1	2	3	4	5

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TEXAS STATE PLANNING REGIONS
NURSING MANPOWER AND RELATED INFORMATION

	PLANNING REGIONS	TOT. RN's: POP.*	ACT. RN's: POP.	RN FTE: POP.	INACT. RN's: POP.	RN's ACT.: INACT.	ACT. RN SMSA POP.	ACT. RN NON-SMSA POP.	TOT. LVN's: POP.	ACT. LVN's: POP.	LVN FTE: POP.	LVN's ACT: INACT.	ACT. RN's ACT. LVN's
1	Panhandle	343	259	236	84	3.07	376	142	300	249	221	4.92	1.04
2	South Plains	240	182	171	58	3.12	236	103	356	307	278	6.34	.59
3	North Texas	279	208	193	71	2.92	214	233	132	387	331	290	5.90	.63
4	North Central Texas	331	239	211	92	2.62		233 **	137	277	232	205	5.12	1.03
5	North East Texas	226	174	161	52	3.34	246	149	153	351	295	261	5.33	.59
6	East Texas	232	165	153	67	2.48		240	123	435	359	312	4.71	.46
7	West Central Texas	249	183	167	66	2.80		225	135	512	441	387	6.21	.42
8	Upper Rio Grande	302	223	202	79	2.80	222	212	95	157	128	114	4.50	1.74
9	Permian Basin	228	168	153	60	2.81		166 **	147	372	309	274	4.85	.54
10	Concho Valley	338	243	221	95	2.56		314	155	463	389	344	5.32	.63
11	Central Texas	332	243	221	89	2.73		278	210	349	291	254	5.01	.84
12	Capital	379	268	236	111	2.40		318	125	241	200	176	4.88	1.34
13	Brazos Valley	255	176	155	79	2.23		210	106	233	194	171	5.02	.91
14	Deep East Texas	173	121	109	52	2.32		-	118	380	307	271	4.24	.39
15	South East Texas	322	236	208	86	2.76	393	228	-	336	276	241	4.61	.86
16	Gulf Coast	378	278	255	100	2.77		266 **	126	273	229	200	5.15	1.21
17	Golden Crescent	225	164	146	61	2.68		-	163	530	431	376	4.36	.38
18	Alamo	334	231	208	103	2.25		231	156	264	225	206	5.75	1.03
19	South Texas	173	106	101	27	4.00		115	41	199	169	157	5.56	.63
20	Coastal Bend	229	168	152	61	2.75	122	166	142	369	311	301	5.39	.54
21	Lower Rio Grande	161	116	105	45	2.60		112 **	96	203	178	164	7.05	.65
	STATE	312	214		85					303		224		
	Column Number	1	2	3	4	5	6	7	8	9	10	11	12	

*RN's per 100,000 population
**More than one SMSA

TEXAS STATE PLANNING REGIONS

	PLANNING REGIONS	NURS. HOME BEDS: POP.	% RN'S IN NSG. HOME	% LVN'S IN NSG. HOME	HOSP. BEDS: POP	% RN'S IN HOSP.	HOSP. BED: RN'S In HOSP.	% LVN'S IN HOSP.	% RN'S IN OFFICE	% LVN'S IN OFFICE	% RN IN P.H
1	Panhandle	412.3	4.37	14.81	476.5	65.36	3	66.55	10.47	10.39	2.99
2	South Plains	447.0	3.60	11.23	393.3	64.16	3.5	65.44	5.73	12.97	7.53
3	North Texas	934.9	5.23	19.84	507.7	67.54	4	58.41	3.49	8.48	6.10
4	North Central Texas	476.8	3.60	17.19	358.7	63.84	2.4	61.53	8.25	8.35	3.57
5	North East Texas	938.5	5.65	26.74	473.7	60.73	5	58.47	4.80	7.48	3.39
6	East Texas	720.9	6.81	20.85	433.1	62.53	4.7	60.18	5.31	9.55	5.99
7	West Central Texas	1120.6	4.55	24.63	547.8	71.15	4.9	59.41	6.72	6.40	4.35
8	Upper Rio Grande	131.8	2.08	9.02	411.3	66.40	3	65.73	6.12	7.21	5.66
9	Permian Basin	310.0	3.08	9.52	435.4	65.77	3.9	72.18	10.00	12.03	4.04
10	Concho Valley	942.6	6.23	16.77	571.4	64.26	3.5	69.94	9.84	6.13	6.23
11	Central Texas	789.8	6.59	26.49	444.0	71.19	2.7	58.33	4.24	7.00	3.01
12	Capital	633.5	3.69	24.45	315.3	64.34	2	51.43	7.62	8.22	8.61
13	Brazos Valley	653.5	4.74	25.39	335.9	62.93	3.5	56.25	10.34	10.16	5.60
14	Deep East Texas	559.3	4.97	17.73	473.9	61.59	6.4	65.06	5.30	6.78	4.30
15	South East Texas	368.7	2.62	12.30	434.3	55.10	3.4	68.46	7.59	6.60	6.54
16	Gulf Coast	298.9	2.77	10.69	492.9	66.04	2.8	68.28	7.25	8.72	3.38
17	Golden Crescent	755.5	8.13	18.40	477.8	61.72	4.6	61.57	5.74	8.38	4.31
18	Alamo	448.5	6.60	15.02	333.2	62.41	2.5	70.35	5.28	4.51	6.22
19	South Texas	277.2	2.68	12.36	254.1	42.86	6.3	66.29	-	7.87	18.75
20	Coastal Bend	371.1	3.53	9.82	406.1	60.79	4.3	70.60	5.56	11.07	6.78
21	Lower Rio Grande	432.6	8.40	20.00	224.0	43.95	4.1	58.23	3.46	12.42	11.36
		1	2	3	4	5	6	7	8	9	10

REGION 1

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	869	75.43
Inactive	283	24.57
Active:		
Full-time	686	78.94
15-30 Hrs/Wk	111	12.77
Less 15 Hrs/Wk	61	7.02
Incomplete	11	1.27
TOTAL	869	100.00

AGE DISTRIBUTION	#	%
20 - 29	171	19.68
30 - 39	204	23.48
40 - 49	221	25.43
50 - 59	164	18.87
60 +	60	6.90
Incomplete	49	5.64
TOTAL	869	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	602	69.28
BSN	70	8.06
Bacc. Other	15	1.73
MSN	8	.92
Master's Other	8	.92
Ph.D.	0	0.00
Incomplete	166	19.10
TOTAL	869	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	568	65.36
Nursing Home	38	4.37
Sch. of Nsg.	54	6.21
Private Duty	18	2.07
Public Health	26	2.99
School Nurse	46	5.29
Industrial Nurse	7	.81
Office Nurse	91	10.47
Other	0	0.00
Incomplete	21	2.42
TOTAL	869	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		13	
25 - 49 beds		116	
50 - 99 beds		111	
100 - 299 beds		422	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	510	662	152
Nursing Home Nurses	34	120	86
School Nurses	44	70	26
Office Nurses	81	48	-33-
Private Duty Nurses	13	53	40
Public Health Nurses	25	66	41
SUB-TOTAL CATEGORIES	707	1019	312
Other +	71		
TOTAL	778		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates	831	495	598
x			
Regional Retention Rate	.57	.78	.50
=			
Local Graduates Retained	473	386	2.54
+			
Inflow	13	9	14
=			
Total New Graduates	486	395	268
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	471	+ 383 + 251	= 1105

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	236	856		778		78		142		220		1105		885
Optimum Level	308	1117		778		339		142		481		1105		624

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REGION 2

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	611	75.71
Inactive	196	24.29
Active:		
Full-time	511	83.63
15-30 Hrs/Wk	57	9.33
Less 15 Hrs/Wk	39	6.38
Incomplete	4	.65
TOTAL	611	100.00

AGE DISTRIBUTION

	#	%
20 - 29	126	20.62
30 - 39	116	18.99
40 - 49	177	28.97
50 - 59	104	17.02
60 +	58	9.49
Incomplete	30	4.91
TOTAL	611	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	411	67.27
BSN	62	10.15
Bacc. Other	14	2.29
MSN	3	.49
Master's Other	6	.98
Ph.D.	0	0.00
Incomplete	115	18.82
TOTAL	611	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	392	64.16
Nursing Home	22	3.60
Sch. of Nsg.	23	3.76
Private Duty	16	2.62
Public Health	46	7.53
School Nurse	65	10.64
Industrial Nurse	1	.16
Office Nurse	35	5.73
Other	0	0.00
Incomplete	11	1.80
TOTAL	611	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		12	
25 - 49 beds		185	
50 - 99 beds		48	
100 - 299 beds		483	
300 - 499 beds		203	
500 + beds		-	
TOTAL HOSPITALS	362	931	569
Nursing Home Nurses	21	128	107
School Nurses	61	67	6
Office Nurses	33	50	17
Private Duty Nurses	12	52	40
Public Health Nurses	44	66	22
SUB-TOTAL CATEGORIES	533	1294	761
Other	+ 28		
TOTAL	561		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates	676			
x				
Regional Retention Rate	.6974			
=				
Local Graduates Retained	471			
+				
Inflow	48	16	56	
=				
Total New Graduates	519	16	56	
x				
Activity Rate	.9787	.9787	.9412	
=				
TOTAL Projected Additional Active RN's by 1980	508	+ 15	+ 53	= 576

	RN's/100,000 Population	Number of RN's Required by 1980	- Present Number of Active RN's	= Additional RN's Required	+ Age Attrition	= Total Additional RN's Required by 1980	- Projected RN Supply by 1980	= Surplus (Deficit)
Status Quo	171	715	561	154	110	264	576	312
Optimum Level	394	1648	561	1087	110	1197	576	(621)

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REGION 3

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	459	74.51
Inactive	157	25.49
Active:		
Full-time	362	78.87
15-30 Hrs/Wk	55	11.98
Less 15 Hrs/Wk	34	7.41
Incomplete	8	1.74
TOTAL	459	100.00

AGE DISTRIBUTION	#	%
20 - 29	80	17.43
30 - 39	103	22.44
40 - 49	112	24.40
50 - 59	92	20.04
60 +	55	11.98
Incomplete	17	3.70
TOTAL	459	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	307	66.88
BSN	34	7.41
Bacc. Other	12	2.61
MSN	8	1.74
Master's Other	3	.65
Ph.D.	0	0.00
Incomplete	95	20.70
TOTAL	459	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	310	67.54
Nursing Home	24	5.23
Sch. of Nsg.	22	4.79
Private Duty	34	7.41
Public Health	28	6.10
School Nurse	9	1.96
Industrial Nurse	1	.22
Office Nurse	16	3.49
Other	1	.22
Incomplete	14	3.05
TOTAL	459	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		15	
25 - 49 beds		115	
50 - 99 beds		96	
100 - 299 beds		302	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	278	528	250
Nursing Home Nurses	21	178	157
School Nurses	9	39	30
Office Nurses	14	39	25
Private Duty Nurses	25	34	9
Public Health Nurses	27	43	16
SUB-TOTAL CATEGORIES	374	861	487
Other	+ 37		
TOTAL	411		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates		533	
x			
Regional Retention Rate		.69	
=			
Local Graduates Retained		367	
+			
Inflow	4	27	23
=			
Total New Graduates	4	394	23
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	4	+ 385	+ 22 = 411

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	193	410		410		0		101		101		411		310
Optimum Level	404	858		410		448		101		549		411		(138)

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REGION 4

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	6,305	72.34
Inactive	2,411	27.66
Active:		
Full-time	4,825	76.53
15-30 Hrs/Wk	929	14.73
Less 15 Hrs/Wk	460	7.30
Incomplete	91	1.44
TOTAL	6.305	100.00

AGE DISTRIBUTION

	#	%
20 - 29	1,381	21.90
30 - 39	1,396	22.14
40 - 49	1,490	23.63
50 - 59	1,187	13.83
60 +	551	3.74
Incomplete	300	4.76
TOTAL	6,305	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	3,674	58.27
BSN	1,150	18.24
Bacc. Other	146	2.32
MSN	115	1.82
Master's Other	74	1.17
Ph.D.	5	.08
Incomplete	1,141	18.10
TOTAL	6,305	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	4,025	63.84
Nursing Home	227	3.60
Sch. of Nsg.	237	3.76
Private Duty	321	5.09
Public Health	225	3.57
School Nurse	373	5.92
Industrial Nurse	194	3.08
Office Nurse	520	8.25
Other	12	.19
Incomplete	171	2.71
TOTAL	6,305	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		65	
25 - 49 beds		249	
50 - 99 beds		717	
100 - 299 beds		1682	
300 - 499 beds		694	
500 + beds		1708	
TOTAL HOSPITALS	3542	5115	1573
Nursing Home Nurses	204	1065	861
School Nurses	355	502	147
Office Nurses	459	596	137
Private Duty Nurses	249	442	193
Public Health Nurses	220	527	307
SUB-TOTAL CATEGORIES	5029	1247	3218
Other	+ 536		
TOTAL	5565		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates				
x				
Regional Retention Rate				
=				
Local Graduates Retained	35	1754	1628	
+				
Inflow	84	180	712	
=				
Total New Graduates	119	1934	2340	
x				
Activity Rate	.9672	.9672	.9242	
=				
TOTAL Projected Additional Active RN's by 1980	115	+ 1871	+ 2163 =	4149

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	211	6640		5565		1075		1144		2219		4149		1930
Optimum Level	312	9819		5565		4254		1144		5398		4149		(1249)

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REGION 5

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	354	76.96
Inactive	106	23.04
Active:		
Full-time	295	83.33
15-30 Hrs/wk	35	9.89
Less 15 Hrs/Wk	18	5.08
Incomplete	6	1.69
TOTAL	354	100.00

AGE DISTRIBUTION	#	%
20 - 29	69	19.49
30 - 39	69	19.49
40 - 49	81	22.88
50 - 59	75	21.19
60 +	38	10.73
Incomplete	22	6.21
TOTAL	354	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	215	60.73
BSN	32	9.04
Bacc. Other	4	1.13
MSN	3	.85
Master's Other	4	1.13
Ph.D.	0	0.00
Incomplete	96	27.12
TOTAL	354	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	215	60 73
Nursing Home	20	5.65
Sch. of Nsg.	23	6.50
Private Duty	7	1.98
Public Health	12	3.39
School Nurse	23	6.50
Industrial Nurse	22	6.21
Office Nurse	17	4.80
Other	1	.28
Incomplete	14	3.95
TOTAL	354	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals		-	
6 - 24 beds		75	
25 - 49 beds		82	
50 - 99 beds		227	
100 - 299 beds		152	
300 - 499 beds		-	
500 + beds			
TOTAL HOSPITALS	193	536	343
Nursing Home Nurses	18	165	147
School Nurses	22	39	17
Office Nurses	15	32	17
Private Duty Nurses	5	32	27
Public Health Nurses	11	40	29
SUB-TOTAL CATEGORIES	264	844	580
Other +	61		
TOTAL	325		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates		426	
x			
Regional Retention Rate		(.37) (.71)	
=			
Local Graduates Retained		377	
+			
Inflow	5	13	22
=			
Total New Graduates	5	389	22
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	5	+ 377 + 20	= 402

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	161	331		325		6		75		81		402		321
Optimum Level	417	857		325		532		75		607		402		(205)

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REGION 6

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	734	71.26
Inactive	296	28.74
Active:		
Full-time	576	78.47
15-30 Hrs/Wk	76	10.35
Less 15 Hrs/Wk	74	10.08
Incomplete	8	1.09
TOTAL	734	100.00

AGE DISTRIBUTION

	#	%
20 - 29	128	17.44
30 - 39	149	20.30
40 - 49	176	23.98
50 - 59	144	19.62
60 +	83	11.31
Incomplete	54	7.35
TOTAL	734	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	456	62.13
BSN	87	11.85
Bacc. Other	10	1.36
MSN	5	.68
Master's Other	4	.54
Ph.D.	0	0.00
Incomplete	172	23.43
TOTAL	734	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	459	62.53
Nursing Home	50	6.81
Sch. of Nsg.	37	5.04
Private Duty	25	3.41
Public Health	44	5.99
School Nurse	48	6.54
Industrial Nurse	16	2.18
Office Nurse	39	5.31
Other	0	0.00
Incomplete	16	2.18
TOTAL	734	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		20	
25 - 49 beds		152	
50 - 99 beds		133	
100 - 299 beds		800	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	411	1105	694
Nursing Home Nurses	44	374	330
School Nurses	46	84	38
Office Nurses	35	70	35
Private Duty Nurses	19	69	50
Public Health Nurses	42	86	44
SUB-TOTAL CATEGORIES	597	1788	1191
Other	+ 58		
TOTAL	655		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates	305	210	
x			
Regional Retention Rate	.573	.567	
=			
Local Graduates Retained	175	119	
+			
Inflow	5	75	30
=			
Total New Graduates	180	194	30
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	175	+ 188	+ 28 = 391

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	153	691		655		36		155		191		391		200
Optimum Level	417	1883		655		1228		155		1343		391		(952)

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REGION 7

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	506	73.65
Inactive	181	26.35
Active:		
Full-time	404	79.84
15-30 Hrs/Wk	61	12.06
Less 15 Hrs/Wk	34	6.72
Incomplete	7	1.38
TOTAL	506	100.00

AGE DISTRIBUTION	#	%
20 - 29	91	17.98
30 - 39	101	19.96
40 - 49	101	19.96
50 - 59	112	22.13
60 +	71	14.03
Incomplete	30	5.93
TOTAL	506	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	352	69.57
BSN	43	8.50
Bacc. Other	12	2.37
MSN	2	.40
Master's Other	5	.99
Ph.D.	0	0.00
Incomplete	92	18.18
TOTAL	506	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	360	71.15
Nursing Home	23	4.55
Sch. of Nsg.	12	2.37
Private Duty	13	2.57
Public Health	22	4.35
School Nurse	32	6.32
Industrial Nurse	0	0.00
Office Nurse	34	6.72
Other	0	0.00
Incomplete	10	1.98
TOTAL	506	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		13	
25 - 49 beds		195	
50 - 99 beds		107	
100 - 299 beds		169	
300 - 499 beds		185	
500 + beds		-	
TOTAL HOSPITALS	335	669	334
Nursing Home Nurses	22	273	251
School Nurses	33	49	16
Office Nurses	34	38	4
Private Duty Nurses	10	45	35
Public Health Nurses	20	56	36
SUB-TOTAL CATEGORIES	454	1130	676
Other	+ 15		
TOTAL	469		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates	293		
x			
Regional Retention Rate	.49		
=			
Local Graduates Retained	144		
+			
Inflow	10	30	10
=			
Total New Graduates	154	30	10
x			
Activity Rate	.97	.97	.93
=			
TOTAL Projected Additional Active RN's by 1980	149	+ 29	+ 9 = 187

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	167	426		469		(43)		127		84		187		103
Optimum Level	403	1030		469		561		127		688		187		(501)

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REGION 8

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	866	73.70
Inactive	309	26.30
Active:		
Full-time	705	81.41
15-30 Hrs/Wk	90	10.39
Less 15 Hrs/Wk	59	6.81
Incomplete	12	1.39
TOTAL	866	100.00

AGE DISTRIBUTION

	#	%
20 - 29	181	20.90
30 - 39	162	18.71
40 - 49	212	24.48
50 - 59	200	23.09
60 +	73	8.43
Incomplete	38	4.39
TOTAL	866	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	612	70.67
BSN	85	9.82
Bacc. Other	16	1.85
MSN	15	1.73
Master's Other	11	1.27
Ph.D.	0	0.00
Incomplete	127	14.67
TOTAL	866	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	575	66.40
Nursing Home	18	2.08
Sch. of Nsg.	31	3.58
Private Duty	21	2.42
Public Health	49	5.66
School Nurse	85	9.82
Industrial Nurse	7	.81
Office Nurse	53	6.12
Other	1	.12
Incomplete	26	3.00
TOTAL	866	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		20	
25 - 49 beds		30	
50 - 99 beds		64	
100 - 299 beds		379	
300 - 499 beds		385	
500 + beds		-	
TOTAL HOSPITALS	515	878	363
Nursing Home Nurses	16	37	21
School Nurses	82	89	7
Office Nurses	47	62	15
Private Duty Nurses	15	61	46
Public Health Nurses	47	76	29
SUB-TOTAL CATEGORIES	722	1203	481
Other	+ 64		
TOTAL	786		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates	60	292	895
x			
Regional Retention Rate	.715	.60*	.60*
=			
Local Graduates Retained	43	175	537
+			
Inflow	9	5	5
=			
Total New Graduates	52	180	542
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	50	+ 174	+ 509 = 733

*Estimate based on State Average

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	202	935		786		149		173		322		733		411
Optimum Level	317	1468		786		682		173		855		733		(122)

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REGION 9

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	520	73.76
Inactive	185	26.24
Active:		
Full-time	427	82.12
15-30 Hrs/Wk	54	10.38
Less 15 Hrs/Wk	33	6.35
Incomplete	6	1.15
TOTAL	520	100.00

AGE DISTRIBUTION

	#	%
20 - 29	48	9.23
30 - 39	96	18.46
40 - 49	170	32.69
50 - 59	125	24.04
60 +	55	10.58
Incomplete	26	5.00
TOTAL	520	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	325	62.50
BSN	41	7.88
Bacc. Other	11	2.12
MSN	3	.58
Master's Other	2	.38
Ph.D.	1	.19
Incomplete	137	26.35
TOTAL	520	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	342	65.77
Nursing Home	16	3.08
Sch. of Nsg.	20	3.85
Private Duty	10	1.92
Public Health	21	4.04
School Nurse	47	9.04
Industrial Nurse	1	.19
Office Nurse	52	10.00
Other	1	.19
Incomplete	10	1.92
TOTAL	520	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		24	
25 - 49 beds		87	
50 - 99 beds		157	
100 - 299 beds		90	
300 - 499 beds		175	
500 + beds		-	
TOTAL HOSPITALS	306	533	227
Nursing Home Nurses	14	80	66
School Nurses	45	70	25
Office Nurses	47	45	-2-
Private Duty Nurses	7	49	42
Public Health Nurses	20	61	41
SUB-TOTAL CATEGORIES	439	838	399
Other	+ 35		
TOTAL	474		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates		505		
x				
Regional Retention Rate		.682		
=				
Local Graduates Retained		344		
+				
Inflow	13	27	36	
=				
Total New Graduates	13	371	36	
x				
Activity Rate	.97	.97	.94	
=				
TOTAL Projected Additional Active RN's by 1980	13	+ 360	+ 34	= 407

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	153	546		424		72		117		189		407		218
Optimum Level	276	985		474		511		117		628		407		(221)

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REGION 10

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	305	71.93
Inactive	119	28.07
Active:		
Full-time	249	81.64
15-30 Hrs/Wk	31	10.16
Less 15 Hrs/Wk	24	7.87
Incomplete	1	.33
TOTAL	305	100.00

AGE DISTRIBUTION

	#	%
20 - 29	49	16.07
30 - 39	43	14.10
40 - 49	77	25.25
50 - 59	76	24.92
60 +	50	16.39
Incomplete	10	3.28
TOTAL	305	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	194	63.61
BSN	29	9.51
Bacc. Other	6	1.97
MSN	1	.33
Master's Other	2	.66
Ph.D.	0	0.00
Incomplete	73	23.93
TOTAL	305	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	196	64.26
Nursing Home	19	6.23
Sch. of Nsg.	13	4.26
Private Duty	13	4.26
Public Health	19	6.23
School Nurse	12	3.93
Industrial Nurse	1	.33
Office Nurse	30	9.84
Other	1	.33
Incomplete	1	.33
TOTAL	305	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		36	
25 - 49 beds		61	
50 - 99 beds		29	
100 - 299 beds		272	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	176	398	222
Nursing Home Nurses	17	78	61
School Nurses	12	21	9
Office Nurses	27	20	-7-
Private Duty Nurses	10	18	8
Public Health Nurses	18	22	4
SUB-TOTAL CATEGORIES	260	557	297
Other	+ 17		
TOTAL	277		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates		545	
x			
Regional Retention Rate		.586	
=			
Local Graduates Retained		319	
+			
Inflow	5	9	13
=			
Total New Graduates	5	328	13
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	5	+ 318	+ 12 = 335

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	221	276		276		0		88		88		335		247
Optimum Level	464	580		277		303		88		391		335		(56)

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REGION 11

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	1,062	73.19
Inactive	389	26.81
Active:		
Full-time	871	82.02
15-30 Hrs/Wk	113	10.64
Less 15 Hrs/Wk	71	6.69
Incomplete	7	.66
TOTAL	1,062	100.00

AGE DISTRIBUTION

	#	%
20 - 29	186	17.51
30 - 39	158	14.88
40 - 49	291	27.40
50 - 59	241	22.69
60 +	127	11.96
Incomplete	59	5.56
TOTAL	1,062	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	645	60.73
BSN	132	12.43
Bacc. Other	17	1.60
MSN	10	.94
Master's Other	8	.75
Ph.D.	1	.09
Incomplete	249	23.45
TOTAL	1,062	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	756	73.19
Nursing Home	70	6.59
Sch. of Nsg.	46	4.33
Private Duty	25	2.35
Public Health	32	3.01
School Nurse	48	4.52
Industrial Nurse	13	1.22
Office Nurse	45	4.24
Other	1	.09
Incomplete	26	2.45
TOTAL	1,062	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		5	
25 - 49 beds		204	
50 - 99 beds		137	
100 - 299 beds		281	
300 - 499 beds		309	
500 + beds		-	
TOTAL HOSPITALS	678	936	258
Nursing Home Nurses	61	321	260
School Nurses	46	77	31
Office Nurses	40	81	41
Private Duty Nurses	19	69	50
Public Health Nurses	30	87	57
SUB-TOTAL CATEGORIES	874	1571	697
Other	+ 93		
TOTAL	967		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates		1152	375
x			
Regional Retention Rate		(.70)(.259)	.553
=			
Local Graduates Retained	-	618	207
+			
Inflow	5	18	63
=			
Total New Graduates	5	636	270
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	5	+ 617 + 254	= 876

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	221	949		967		(18)		247		229		876		647
Optimum Level	367	1576		967		609		247		856		876		20

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REGION 12

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	1,220	70.60
Inactive	508	29.40
Active:		
Full-time	931	76.31
15-30 Hrs/Wk	189	15.49
Less 15 Hrs/Wk	84	6.89
Incomplete	16	1.31
TOTAL	1,220	100.00

AGE DISTRIBUTION

	#	%
20 - 29	343	28.11
30 - 39	250	20.49
40 - 49	229	18.77
50 - 59	224	18.36
60 +	128	10.49
Incomplete	46	3.77
TOTAL	1,220	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	705	57.79
BSN	203	16.64
Bacc. Other	34	2.79
MSN	36	2.95
Master's Other	19	1.56
Ph.D.	7	.57
Incomplete	216	17.70
TOTAL	1,220	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	785	64.34
Nursing Home	45	3.69
Sch. of Nsg.	63	5.16
Private Duty	20	1.64
Public Health	105	8.61
School Nurse	55	4.51
Industrial Nurse	10	.82
Office Nurse	93	7.62
Other	11	.90
Incomplete	33	2.70
TOTAL	1,220	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals		12	
6 - 24 beds		118	
25 - 49 beds		56	
50 - 99 beds		348	
100 - 299 beds		172	
300 - 499 beds		-	
500 + beds		706	2
TOTAL HOSPITALS	704	249	210
Nursing Home Nurses	39	67	23
School Nurses	53	90	7
Office Nurses	83	71	56
Private Duty Nurses	15	89	-9-
Public Health Nurses	98	1281	289
SUB-TOTAL CATEGORIES	992		
Other	+ 84		
TOTAL	1076		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates	420		1859	
x				
Regional Retention Rate	.81		.50	
=				
Local Graduates Retained	340		929	
+				
Inflow	27	117	126	
=				
Total New Graduates	367	117	1055	
x				
Activity Rate	.97	.97	.94	
=				
TOTAL Projected Additional Active RN's by 1980	356	+ 113	+ 992	= 1461

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	236	1145		1076		69		240		309		1461		1152
Optimum Level	286	1388		1076		312		240		552		1461		909

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REGION 13

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	232	69.05
Inactive	104	30.95
Active:		
Full-time	176	75.86
15-30 Hrs/Wk	40	17.24
Less 15 Hrs/Wk	15	6.47
Incomplete	1	.43
TOTAL	232	100.00

AGE DISTRIBUTION

	#	%
20 - 29	70	30.17
30 - 39	43	18.53
40 - 49	45	19.40
50 - 59	44	18.97
60 +	19	8.19
Incomplete	11	4.74
TOTAL	232	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	127	54.74
BSN	44	18.97
Bacc. Other	6	2.59
MSN	6	2.59
Master's Other	2	.86
Ph.D.	0	0.00
Incomplete	47	20.26
TOTAL	232	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	146	62.93
Nursing Home	11	4.74
Sch. of Nsg.	6	2.59
Private Duty	8	3.45
Public Health	13	5.60
School Nurse	17	7.33
Industrial Nurse	0	0.00
Office Nurse	24	10.34
Other	0	0.00
Incomplete	7	3.02
TOTAL	232	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		-	
25 - 49 beds		59	
50 - 99 beds		46	
100 - 299 beds		74	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	131	179	48
Nursing Home Nurses	10	89	79
School Nurses	16	23	7
Office Nurses	22	15	-7-
Private Duty Nurses	6	21	15
Public Health Nurses	12	26	14
SUB-TOTAL CATEGORIES	197	353	156
Other	+ 7		
TOTAL	204		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates				
x				
Regional Retention Rate				
=				
Local Graduates Retained				
+				
Inflow	9	72	54	
=				
Total New Graduates	9	72	54	
x				
Activity Rate	.97	.97	.94	
=				
TOTAL Projected Additional Active RN's by 1980	9	+ 70	+ 51	= 130

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	155	197		204		(7)		41		34		130		96
Optimum Level	272	347		204		143		41		184		130		(54)

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REGION 14

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	302	69.91
Inactive	130	30.09
Active:		
Full-time	231	76.49
15-30 Hrs/Wk	35	11.59
Less 15 Hrs/Wk	24	7.95
Incomplete	12	3.97
TOTAL	302	100.00

AGE DISTRIBUTION	#	%
20 - 29	57	18.87
30 - 39	70	23.18
40 - 49	62	20.53
50 - 59	56	18.54
60 +	39	12.91
Incomplete	18	5.96
TOTAL	302	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	187	61.92
BSN	31	10.26
Bacc. Other	9	2.98
MSN	2	.66
Master's Other	3	.99
Ph.D.	0	0.00
Incomplete	70	23.18
TOTAL	302	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	186	61.59
Nursing Home	15	4.97
Sch. of Nsg.	14	4.64
Private Duty	7	2.32
Public Health	13	4.30
School Nurse	31	10.26
Industrial Nurse	5	1.66
Office Nurse	16	5.30
Other	0	0.00
Incomplete	15	4.97
TOTAL	302	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		20	
25 - 49 beds		121	
50 - 99 beds		99	
100 - 299 beds		237	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	169	477	308
Nursing Home Nurses	14	129	115
School Nurses	30	47	17
Office Nurses	14	27	13
Private Duty Nurses	4	39	35
Public Health Nurses	13	49	36
SUB-TOTAL CATEGORIES	244	768	524
Other	+ 23		
TOTAL	267		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates		284	
x			
Regional Retention Rate		.47	
=			
Local Graduates Retained		133	
+			
Inflow	11	14	17
=			
Total New Graduates	11	147	17
x			
Activity Rate	.8810	.8810	.9111
=			
TOTAL Projected Additional Active RN's by 1980	10	+ 130 + 15	= 155

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	109	302		267		35		67		102		155		53
Optimum Level	312	864		267		597		67		664		155		(509)

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REGION 15

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	764	73.39
Inactive	277	26.61
Active:		
Full-time	583	76.31
15-30 Hrs/Wk	91	11.91
Less 15 Hrs/Wk	80	10.47
Incomplete	10	1.31
TOTAL	764	100.00

AGE DISTRIBUTION	#	%
20 - 29	123	16.10
30 - 39	137	17.93
40 - 49	229	29.97
50 - 59	162	21.20
60 +	67	8.77
Incomplete	46	6.02
TOTAL	764	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	504	65.97
BSN	67	8.77
Bacc. Other	10	1.31
MSN	5	.65
Master's Other	4	.52
Ph.D.	1	.13
Incomplete	173	22.64
TOTAL	764	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	421	55.10
Nursing Home	20	2.62
Sch. of Nsg.	22	2.88
Private Duty	43	5.63
Public Health	50	6.54
School Nurse	66	8.64
Industrial Nurse	61	7.98
Office Nurse	58	7.59
Other	2	.26
Incomplete	21	2.75
TOTAL	764	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		12	
25 - 49 beds		14	
50 - 99 beds		45	
100 - 299 beds		346	
300 - 499 beds		565	
500 + beds		-	
TOTAL HOSPITALS	378	982	604
Nursing Home Nurses	18	151	133
School Nurses	64	64	0
Office Nurses	52	61	9
Private Duty Nurses	32	51	19
Public Health Nurses	47	63	16
SUB-TOTAL CATEGORIES	591	1372	781
Other	+ 83		
TOTAL	674		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates	104	240*	
x			
Regional Retention Rate	.66	.60*	
=			
Local Graduates Retained	69	144*	
+			
Inflow	5	23*	59
=			
Total New Graduates	74	167*	59
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	72	+ 162*	+ 55 = 289

*Estimate based on State Average

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	208	733		674		59		148		207		289		82
Optimum Level	434	1529		674		855		148		1003		289		(714)

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REGION 16

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	6,607	73.44
Inactive	2,389	26.56
Active:		
Full-time	5,191	78.57
15-30 Hrs/Wk	894	13.53
Less 15 Hrs/Wk	465	7.04
Incomplete	57	.86
TOTAL	6,607	100.00

AGE DISTRIBUTION

	#	%
20 - 29	1,530	23.16
30 - 39	1,530	23.16
40 - 49	1,613	24.41
50 - 59	1,144	17.31
60 +	478	7.23
Incomplete	312	4.72
TOTAL	6,607	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	3,570	54.03
BSN	1,378	20.86
Bacc. Other	160	2.42
MSN	127	1.92
Master's Other	75	1.14
Ph.D.	4	.06
Incomplete	1,293	19.57
TOTAL	6,607	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	4,363	66.04
Nursing Home	183	2.77
Sch. of Nsg.	220	3.33
Private Duty	336	5.09
Public Health	223	3.38
School Nurse	426	6.45
Industrial Nurse	218	3.30
Office Nurse	479	7.25
Other	18	.27
Incomplete	141	2.13
TOTAL	6,607	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		16	
25 - 49 beds		208	
50 - 99 beds		403	
100 - 299 beds		3070	
300 - 499 beds		914	
500 + beds		2133	
TOTAL HOSPITALS	3887	6744	2851
Nursing Home Nurses	180	604	424
School Nurses	446	474	28
Office Nurses	424	635	211
Private Duty Nurses	260	369	109
Public Health Nurses	224	461	237
SUB-TOTAL CATEGORIES	5421	9287	3866
Other	+ 478		
TOTAL	5899		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates				
x				
Regional Retention Rate				
=				
Local Graduates Retained		2340	1558	
+				
Inflow	301	98	532	
=				
Total New Graduates	301	2438	2090	
x				
Activity Rate	.9678	.9678	.9264	
=				
TOTAL Projected Additional Active RN's by 1980	291 +	2359 +	1936	=4586

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	255	7196		5899		1297		1050		2347		4586		2239
Optimum Level	402	11344		5899		5445		1050		6495		4586		(1909)

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REGION 17

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	209	72.82
Inactive	78	27.18
Active:		
Full-time	162	77.51
15-30 Hrs/Wk	30	14.35
Less 15 Hrs/Wk	16	7.66
Incomplete	1	.48
TOTAL	209	100.00

AGE DISTRIBUTION

	#	%
20 - 29	23	11.00
30 - 39	32	15.31
40 - 49	64	30.62
50 - 59	45	21.53
60 +	26	12.44
Incomplete	19	9.09
TOTAL	209	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	134	64.11
BSN	25	11.96
Bacc. Other	5	2.39
MSN	0	0.00
Master's Other	1	.48
Ph.D.	0	0.00
Incomplete	44	21.05
TOTAL	209	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	129	61.72
Nursing Home	17	8.13
Sch. of Nsg.	7	3.35
Private Duty	6	2.87
Public Health	9	4.31
School Nurse	18	8.61
Industrial Nurse	7	3.35
Office Nurse	12	5.74
Other	0	0.00
Incomplete	4	1.91
TOTAL	209	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		23	
25 - 49 beds		47	
50 - 99 beds		91	
100 - 299 beds		173	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	116	334	218
Nursing Home Nurses	15	94	79
School Nurses	7	29	22
Office Nurses	11	18	7
Private Duty Nurses	4	23	19
Public Health Nurses	8	28	20
SUB-TOTAL CATEGORIES	161	526	365
Other	+ 25		
TOTAL	186		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates			
x			
Regional Retention Rate			
=			
Local Graduates Retained			
+			
Inflow	5	5	14
=			
Total New Graduates	5	5	14
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	5 +	5 +	13 = 23

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	146	184		186		(2)		49		47		23		(24)
Optimum Level	417	525		186		339		49		388		23		(365)

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REGION 18

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	2,668	69.19
Inactive	1,188	30.81
Active:		
Full-time	2,136	80.06
15-30 Hrs/Wk	316	11.84
Less 15 Hrs/Wk	185	6.93
Incomplete	31	1.16
TOTAL	2,668	100.00

AGE DISTRIBUTION

	#	%
20 - 29	529	19.83
30 - 39	560	20.99
40 - 49	636	23.84
50 - 59	552	20.69
60 +	273	10.23
Incomplete	118	4.42
TOTAL	2,668	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	1,600	59.97
BSN	468	17.54
Bacc. Other	59	2.21
MSN	49	1.84
Master's Other	33	1.24
Ph.D.	6	.22
Incomplete	453	16.98
TOTAL	2,668	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	1,665	62.41
Nursing Home	176	6.60
Sch. of Nsg.	128	4.80
Private Duty	118	4.42
Public Health	166	6.22
School Nurse	163	6.11
Industrial Nurse	33	1.24
Office Nurse	141	5.28
Other	9	.34
Incomplete	69	2.59
TOTAL	2,668	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		21	
25 - 49 beds		158	
50 - 99 beds		121	
100 - 299 beds		1013	
300 - 499 beds		805	
500 + beds		599	
TOTAL HOSPITALS	1494	2717	1223
Nursing Home Nurses	154	366	212
School Nurses	157	216	59
Office Nurses	126	225	99
Private Duty Nurses	88	174	86
Public Health Nurses	155	217	62
SUB-TOTAL CATEGORIES	2174	3915	1741
Other +	228		
TOTAL	2402		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates	464	804	1782
x			
Regional Retention Rate	.875	.869	(.509)(.560)
=			
Local Graduates Retained	406	699	935
+			
Inflow	32	63	166
=			
Total New Graduates	438	762	1101
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	425 +	739 +	1035 = 2199

	RN's/100,000 Population	Number of RN's Required by 19[illegible]	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	208	2554		2402		152		549		701		2199		1498
Optimum Level	348	4273		2402		1871		549		2420		2199		(221)

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REGION 19

1971-72 RN LICENSURE DATA

ACTIVITY STATUS

	#	%
Active	112	80.00
Inactive	28	20.00
Active:		
Full-time	100	89.29
15-30 Hrs/Wk	8	7.14
Less 15 Hrs/Wk	1	.89
Incomplete	3	2.68
TOTAL	112	100.00

AGE DISTRIBUTION

	#	%
20 - 29	32	28.57
30 - 39	34	30.36
40 - 49	21	18.75
50 - 59	12	10.71
60 +	9	8.04
Incomplete	4	3.57
TOTAL	112	100.00

HIGHEST EDUCATIONAL PREPARATION

	#	%
No Degree	61	54.46
BSN	23	20.54
Bacc. Other	3	2.68
MSN	3	2.68
Master's Other	0	0.00
Ph.D.	0	0.00
Incomplete	22	19.64
TOTAL	112	100.00

FIELD OF EMPLOYMENT

	#	%
Hospital	48	42.86
Nursing Home	3	2.68
Sch. of Nsg.	11	9.82
Private Duty	0	0.00
Public Health	21	18.75
School Nurse	23	20.54
Industrial Nurse	0	0.00
Office Nurse	0	0.00
Other	0	0.00
Incomplete	6	5.36
TOTAL	112	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		7	
25 - 49 beds		-	
50 - 99 beds		-	
100 - 299 beds		117	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	43	124	81
Nursing Home Nurses	3	18	15
School Nurses	22	24	2
Office Nurses	0	10	10
Private Duty Nurses	0	16	16
Public Health Nurses	20	21	1
SUB-TOTAL CATEGORIES	88	213	125
+ Other	18		
TOTAL	106		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN
Local Graduates		298	
x			
Regional Retention Rate		.77	
=			
Local Graduates Retained		229	
+			
Inflow	5	9	23
=			
Total New Graduates	5	238	23
x			
Activity Rate	.97	.97	.94
=			
TOTAL Projected Additional Active RN's by 1980	5	+ 231 + 22	= 258

	RN's/100,000 Population	Number of RN's Required by 1980	- Present Number of Active RN's	= Additional RN's Required	+ Age Attrition	= Total Additional RN's Required by 1980	- Projected RN Supply by 1980	= Surplus (Deficit)
Status Quo	101	135	106	29	15	44	258	214
Optimum Level	213	286	106	180	15	195	258	63

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REGION 20

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	737	73.33
Inactive	268	26.67
Active:		
Full-time	596	80.87
15-30 Hrs/Wk	89	12.08
Less 15 Hrs/Wk	38	5.16
Incomplete	14	1.90
TOTAL	737	100.00

AGE DISTRIBUTION	#	%
20 - 29	131	17.77
30 - 39	148	20.08
40 - 49	185	25.10
50 - 59	149	20.22
60 +	96	13.03
Incomplete	28	3.80
TOTAL	737	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	472	64.04
BSN	71	9.63
Bacc. Other	17	2.31
MSN	5	.68
Master's Other	7	.95
Ph.D.	0	0.00
Incomplete	165	22.39
TOTAL	737	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	448	60.79
Nursing Home	26	3.53
Sch. of Nsg.	33	4.48
Private Duty	32	4.34
Public Health	50	6.78
School Nurse	66	8.96
Industrial Nurse	14	1.90
Office Nurse	41	5.56
Other	1	.14
Incomplete	26	3.53
TOTAL	737	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		24	
25 - 49 beds		43	
50 - 99 beds		167	
100 - 299 beds		234	
300 - 499 beds		188	
500 + beds		250	
TOTAL HOSPITALS	402	906	504
Nursing Home Nurses	23	157	134
School Nurses	64	97	33
Office Nurses	37	74	37
Private Duty Nurses	24	69	45
Public Health Nurses	47	87	40
SUB-TOTAL CATEGORIES	597	1390	793
Other	+ 70		
TOTAL	667		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates		665		
x				
Regional Retention Rate		.808		
=				
Local Graduates Retained		537		
+				
Inflow	5	153	32	
=				
Total New Graduates	5	690	.94	
x				
Activity Rate	.97	.97	.94	
=				
TOTAL Projected Additional Active RN's by 1980	5	+ 669	+ 30	= 704

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	152	708		667		41		170		211		704		493
Optimum Level	330	1537		667		870		170		1040		704		(336)

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REGION 21

1971-72 RN LICENSURE DATA

ACTIVITY STATUS	#	%
Active	405	72.19
Inactive	156	27.81
Active:		
Full-time	326	80.49
15-30 Hrs/Wk	39	9.63
Less 15 Hrs/Wk	32	7.90
Incomplete	8	1.98
TOTAL	405	100.00

AGE DISTRIBUTION	#	%
20 - 29	42	10.37
30 - 39	85	20.99
40 - 49	96	23.70
50 - 59	93	22.96
60 +	67	16.54
Incomplete	22	5.43
TOTAL	405	100.00

HIGHEST EDUCATIONAL PREPARATION	#	%
No Degree	226	55.80
BSN	55	13.58
Bacc. Other	6	1.48
MSN	8	1.98
Master's Other	2	.49
Ph.D.	0	0.00
Incomplete	108	26.67
TOTAL	405	100.00

FIELD OF EMPLOYMENT	#	%
Hospital	178	43.95
Nursing Home	34	8.40
Sch. of Nsg.	19	4.69
Private Duty	19	4.69
Public Health	46	11.36
School Nurse	77	19.01
Industrial Nurse	2	.49
Office Nurse	14	3.46
Other	1	.25
Incomplete	15	3.70
TOTAL	405	100.00

DETERMINATION OF DEMAND FOR RN's BASED ON ADOPTED RATIOS

	No. of RN's Currently Employed (FTE)	No. of RN's Required to Achieve (FTE) Optimum Values	No. of Additional RN's Required to Achieve (FTE) Optimum Values
Hospitals			
6 - 24 beds		14	
25 - 49 beds		-	
50 - 99 beds		53	
100 - 299 beds		449	
300 - 499 beds		-	
500 + beds		-	
TOTAL HOSPITALS	160	516	356
Nursing Home Nurses	30	97	67
School Nurses	74	87	13
Office Nurses	13	43	30
Private Duty Nurses	14	54	40
Public Health Nurses	43	67	24
SUB-TOTAL CATEGORIES	334	864	530
Other	+ 32		
TOTAL	366		

PROJECTED RN SUPPLY PATTERN -- PRESENT - 1980

	D	AD	BSN	
Local Graduates		610		
x				
Regional Retention Rate		.80		
=				
Local Graduates Retained		488		
+				
Inflow	5	5	41	
=				
Total New Graduates	5	493	41	
x				
Activity Rate	.97	.97	.94	
=				
TOTAL Projected Additional Active RN's by 1980	5	+ 478	+ 39	= 522

	RN's/100,000 Population	Number of RN's Required by 1980	-	Present Number of Active RN's	=	Additional RN's Required	+	Age Attrition	=	Total Additional RN's Required by 1980	-	Projected RN Supply by 1980	=	Surplus (Deficit)
Status Quo	105	312		366		(54)		114		60		522		462
Optimum Level	256	761		366		395		114		509		522		13

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APPENDIX B

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SURVEY OF MOBILITY AND UTILIZATION PATTERNS OF PROFESSIONAL NURSES
BY
THE COORDINATING BOARD NURSING PROJECT

1. SEX: ____ (1) Male
____ (2) Female

2. MARITAL STATUS: ____(1) Single
____(2) Married
____(3) Widowed
____(4) Divorced

3. AGE: _____

4. Number of children under 18: _____

5. Did you complete a Vocational Nursing program before enrolling in an R.N. program?

____ (1) Yes ____ (2) No

6. In the spaces provided, please indicate the year of graduation from each type of program which you have completed. In the spaces on the right, please indicate your major and school attended.

Program	Year	Major in Nursing (Check if YES)	School Name	State	
(1) Diploma	19__	___	_____	_____	□□□□□
(2) Associate	19__	___	_____	_____	□□□□□
(3) Baccalaureate	19__	___	_____	_____	□□□□□
(4) Masters	19__	___	_____	_____	□□□□□
(5) Doctorate	19__	___	_____	_____	□□□□□

7. Since graduation from your first nursing program, approximately how many years have you been active in nursing? _____ Years

8. What is the highest educational level you plan to attain?

____(1) Diploma ____(3) Baccalaureate ____(5) Ph.D

____(2) Associate Degree ____(4) Master's

9. Do you plan to obtain the degree indicated above in Nursing?

____ (1) Yes ____ (2) No

10. What is your present position?

____(1) Administrator or Assistant ____(5) Head Nurse or Assistant

____(2) Consultant ____(6) General Duty or Staff

____(3) Supervisor or Assistant ____(7) Other (Please specify)

____(4) Instructor _____

11. Please indicate the location of your first two positions as an R.N. following graduation.

(1st) Position _____ □□□□
City County State

12. Date of employment _____ 13. Date of resignation _____
Month Year Month Year

14. Were you a member of the Armed Forces at this time? ___(1)Yes ___(2)No

15. Was this position in ___(1) An Institutional setting
___(2) A Public Health or Community Agency
___(3) Other (specify) _____

16. Reason for resignation _____ □□

17. (2nd) Position _____ □□□□
City County State

18. Date of employment _____ 19. Date of resignation _____
Month Year Month Year

20. Were you a member of the Armed Forces at this time? ___(1)Yes ___(2)No

21. Was this position in ___(1) An Institutional setting
___(2) A Public Health or Community Agency
___(3) Other (specify) _____

22. Reason for resignation _____ □□

23. Please provide the following information for the years indicated.

	For Each Year Indicated, List All States In Which You Resided	For Each Year, List All Counties In Which You Resided	What Was the Approximate Pop. of Each Town at the Time of Your Residence	Number of Months In Which You Were Employed 1. Full-Time 2. Part-Time 3. Inactive			Please List By Number the Type of Job Setting 1.Institution 2.Community Agency 3.Office 4.Other____	Were You Enrolled In A Nursing Program During the Year? 1.Diploma 2.A.D. 3.BSN 4.Master's 5.Doc rate
				1	2	3		
1973	1							
	2							
1972	1							
	2							
1971	1							
	2							
19??	1							
	2							
1969	1							
	2							

24. In your first position as an R.N. did your job require you to perform procedures or assume responsibilities for which your education had not prepared you?

____ (1) Yes ____ (2) No

25. If you answered "Yes" to the previous question, please specify the major categories of activities for which you felt unprepared.

1. _____

2. _____

26. Do you feel that your basic nursing education has provided you with skills or abilities which, for any reason, you are currently unable to apply in your practice of nursing? ____ (1) Yes ____ (2) No

27. If you answered the previous question "Yes", please specify what these unused abilities are.

28. What factors do you feel contribute to the lack of utilization of these abilities?

29. What specific changes in your present job situation would enable you to utilize your nursing abilities to a greater degree?

30. In your current position, are you engaged in any unique or innovative ways of providing improved health care? ____ (1) Yes ____ (2) No

31. If "Yes", please explain.

32. Given a choice would you prefer to practice in a ____(1) Rural setting (less than 5000 persons)
____(2) Urban setting (5000 or more persons)

33. In the column on the left, please place a check in the space of the job setting in which you now work. In the column to the right, please place a check beside the setting in which you would most like to work if given a choice

PRESENT JOB SETTING	PREFERRED JOB SETTING
___ (1) Small hospital (25-100 beds)	___ (1) Small hospital (25-100 beds)
___ (2) Medium hospital (100-300 beds)	___ (2) Medium hospital (100-300 beds)
___ (3) Large medical center	___ (3) Large medical center
___ (4) Nursing home	___ (4) Nursing home
___ (5) Community health setting (public health, VNA, etc.)	___ (5) Community health setting (public health, VNA, etc.)
___ (6) Educational setting	___ (6) Educational setting
___ (7) Other (specify) _____	___ (7) Other (specify) _____

34. If you are not currently working in the geographic area or job setting of your choice, what are the factors that prevent you from working in these areas?

35. Assuming a retirement age of 65, please indicate below the number of years you expect to be classified in each category.

	Number of Years		Number of Years
(1) Full-time	___	(3) Less than half-time	_____
(2) Half-time	___	(4) Inactive	_____

36. During the past five years have you either worked with or supervised recent graduates? ____ (1) Yes ____ (2) No

37. Assuming a normal orientation of the unique aspects of a particular institution or agency, do you believe current professional nursing education has adequately prepared the new graduate:

(a) of a diploma program to function in beginning positions? ___(1)Yes ___(2)No
(b) of an A.D. program to function in beginning positions? ___(1)Yes ___(2)No
(c) of a BSN program to function in beginning positions? ___(1)Yes ___(2)No

If "No" to one of the above, what changes do you feel are needed?

Diploma Associate Degree Baccalaureate

38. Do you plan to participate in the Texas Nurses Association's voluntary Continuing Education Recognition Program (CERP)?

____(1) Yes ____(3) Undecided
____(2) No ____(4) Unfamiliar with the program

39. Are you in favor of mandatory continuing education in Texas?

____(1) Yes ____ (2) No ____(3) Undecided

40. Would you be more likely to attend C-E courses if they were developed specifically for graduates of your particular type of nursing program? (AD, diploma, BSN)

____(1) Yes ____(2) No ____(3) Undecided

THANK YOU FOR YOUR PARTICIPATION.

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STUDENT CURRICULUM QUESTIONNAIRE

Male ____ Female ____ Age ____ Single ____ Married ____ Widowed, Divorced ____

Type of nursing program: ____ Diploma ____ AD ____ BSN

What is your classification? ____ 1st year student ____ 2nd year student ____ 3rd year student ____ 4th year student

The project realizes that the measures of the total quality of a program depend on many variables ranging from the educational background and teaching ability of the faculty to the library and clinical facilities to the characteristics of the students themselves. Since this study cannot include such a broad range of factors, we are limiting our questions primarily to the curriculum content and its presentation. In responding to the questions please use the following statement as the definition of curriculum.

The term curriculum, as used in this study, refers to the courses offered by a school of nursing which lead to a diploma or a degree. This definition includes the philosophy of the school, organizational framework of each course, methods of presentation of course content, relationship of objectives to clinical experiences and evaluation procedures. The definition, as stated, does not apply to the quality of the facilities within which the presentation of the curriculum occurs nor to the credentials or abilities of the faculty or students.

COURSE TITLE _____

1. Does this course have clearly defined, specific objectives for:

a. The course as a whole ____ Yes ____ No
b. Each major unit ____ Yes ____ No
c. Each classroom session ____ Yes ____ No
d. Each clinical experience ____ Yes ____ No

2. Objectives are:

____ a. Developed entirely by faculty before the course begins
____ b. Given to the students as the course progresses
____ c. Developed cooperatively by faculty and students

3. The student is expected to develop his own objectives for clinical experience in addition to those established in the course outline.

____ Yes ____ No

4. Do you receive an individual evaluation of your achievement of specific objectives by a faculty member?

____ Yes ____ No

-1-

5. Are you required to do a self-evaluation of your achievement of specific objectives?

____ Yes ____ No

6. This course: (check all that apply)

____ a. Is well organized within a logical conceptual framework
____ b. Is fragmented with little apparent continuity from one unit to the next
____ c. Specifically builds on knowledge
____ d. Could be equally effective if offered in another semester of the curriculum
____ e. Has a clearly understood reason for being required at this particular time in the program (explain: _____)

7. The student receives information on class topics, lab assignments, reading assignments, etc.:

____ a. For the entire course at the beginning of the course
____ b. For each unit, just before the unit begins
____ c. On a weekly basis
____ d. On an irregular basis
____ e. Other (specify) _____

8. Schedules and classroom topics: (check all that apply)

____ a. Are followed exactly as scheduled if at all possible
____ b. Are frequently changed unexpectedly without advance notification
____ c. May be changed at the request of a majority of students

9. Course content:

____ a. Needs to cover more topics in less detail
____ b. Needs to cover fewer topics in greater detail
____ c. Is satisfactory as is

10. In this course are there topics which are not included, but which, you feel, should have been?

____ Yes ____ No If Yes, please specify _____

11. The content of this course places primary emphasis on:

____ a. Nursing assessment, planning and evaluation
____ b. Signs, symptoms and medical treatment of specific conditions
____ c. How to give care and perform certain procedures
____ d. A balanced combination of a, b, and c
____ e. Other (specify) _____

12. In this course, if knowledge of specific aspects of biology, chemistry, psychology, or sociology from previous non-nursing courses is required to master this content:

____ a. The course repeats the information
____ b. The information is not repeated, but the student is held responsible for it

13. Some of the content in this course has been presented in other nursing courses.

____ Yes ____ No (Please specify topics: _____)

14. The most frequent teaching method used in this course is:

____ a. Lecture
____ b. Group discussion
____ c. Presentations by students
____ d. Audio-visual media (tapes, films, slides, T.V.)
____ e. Independent study
____ f. Team teaching
____ g. Other (specify) _____

15. The teaching method which is most effective for me in this type of course is: _____

16. Reading assignments for this course utilize:

____ a. One major textbook
____ b. Several textbooks
____ c. No regular textbook
____ d. Bibliography references only
____ e. A combination

17. Bibliography references for this course:

____ a. Are up to date with some references from journals in the past six months
____ b. Have a majority of references more than 4 or 5 years old
____ c.

18. Clinical lab experiences are related to theory being currently presented in class.

____ Yes ____ No

19. Clinical experience is sufficient in length to master procedures and apply theory under realistic conditions.

____ Yes ____ No

20. If you answered the previous question "No", what specific changes in clinical experiences do you feel would improve the course?

21. Students have a choice in the type of clinical area if the area can meet the required objectives.

____ Yes ____ No

22. Supervision in the clinical setting in this course falls into which of the following categories?

____ a. An instructor is in the immediate area at all times
____ b. An instructor is not always in the area but is available on call, by paging, etc
____ c. Supervision is primarily by area staff with post clinical conference with
____ d. Other

23. Evaluation of your clinical performance in this course is based on: (Please a check in the box for all that apply.)

____ ☐ Written anecdotal notes kept by instructor
____ ☐ General opinion of instructor without supporting documentation
____ ☐ Rating of achievement of a list of specific objectives which have been observed by an evaluator
____ ☐ Graded patient care plan
____ ☐ Self-evaluation
____ ☐ Verbal reports to instructor from staff working in the area where you were assigned
____ ☐ Other (specify) _____

24. In the previous question please rank the choices you made according to which factors have the greatest weight in determining clinical evaluation.

25. The most frequently used method of evaluation of theory in this course is:

____ a. Written objective tests
____ b. Written essay tests
____ c. Oral examinations
____ d. Classroom participation
____ e. Special Projects (specify) _____
____ f. Other

26. Test items in this course:

____ a. Are directly related to specific objectives
____ b. Often emphasize what you feel are minor details

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PHYSICIAN OPINION SURVEY OF NURSING EDUCATION AND UTILIZATION

1. Is your practice: ____ (1) solo ____ (2) partnership ____ (3) group (number of physicians ____)

DO NOT USE

2. Type of practice or specialty _____

3. Number of years in active practice __ __ (e.g., 0 5 or 0 6)

4. County in which you practice _____

5. Population of the town in which you practice:

____ (1) less than 5,000
____ (2) 5,000 - 49,999
____ (3) 50,000 - 99,999
____ (4) 100,000 - 299,999
____ (5) 300,000 - 499,999
____ (6) 500,000 or more

6. Number of beds in each of the hospitals in which you most frequently practice:

(a) ____ (b) ____ (c) ____ (e.g., 1 3 2 or 0 2 8)

7. What is the average number of hours per week that you normally spend in the hospital? ____ (e.g., 1 0 0 or 0 1 2)

8. If you are currently involved in any of the following activities (or have been within the past two years), please place a check (✓) in the blank to the left of each option which applies:

____ (1) teach classes for professional nursing students on a regular basis
____ (2) teach classes for R.N.'s on a regular basis
____ (3) member of a committee to determine local or statewide need for nurses
____ (4) on board or advisory committee of a school of nursing
____ (5) member of a committee concerned with nursing education (other than option 4)
____ (6) member of a state or local committee concerned with the utilization of nurses
____ (7) other (please specify) _____

9. What are the major functions of the nursing staff currently employed in your office?

DO NOT USE

(a) _____
(b) _____
(c) _____
(d) _____

10. Do you personally interview the nurses to be employed in your office? ____ (1) yes ____ (2) no

11. When you employ a Registered Nurse in your office, do you verify her license with the Board of Nurse Examiners?

____ (1) yes ____ (2) no

12. If your hospital patients are assigned to a professional nursing student rather than a staff aide, L.V.N., or R.N., do you feel you should be notified?

____ (1) yes ____ (2) no

13. What are the most important characteristics or qualifications which you look for:

DO NOT USE

	IN AN OFFICE NURSE	IN A NURSE ON A HOSPITAL DIVISION
(a)	_____	_____
(b)	_____	_____
(c)	_____	_____
(d)	_____	_____

14. What are the major functions which should be expected of nurses with each of the following educational levels:

DO NOT USE

	I IN A PHYSICIAN'S OFFICE	II IN A HOSPITAL SETTING
(a) L.V.N.	_____	_____
(b) R.N. - A.D.	_____	_____
(c) R.N. - Diploma	_____	_____
(d) R.N. - B.S.	_____	_____
(e) R.N. - Master's	_____	_____

15. Do you usually know the educational level of R.N.'s with whom you frequently work in the hospital setting? ____ (1) yes ____ (2) no

If you answered "no" to the above, ____ (1) would you like to know the educational level
____ (2) doesn't make any difference

16. Should nurses be required to have a specified amount of continuing education in order to renew their license?

____ (1) yes ____ (2) no

17. Do you provide job release time with pay for nurses in your office to attend continuing education programs?

____ (1) yes ____ (2) no

18. Do you think that medical students and nursing students could benefit by having a course together which emphasized collaboration in meeting patient needs?

____ (1) yes ____ (2) no

12. Please indicate in Column I the number of nurses in each category now employed in your office. In Column II, please indicate the number in each category that you would prefer and could now employ if they were available.

I CURRENTLY EMPLOY	II PREFER TO EMPLOY	
__ __	__ __	(a) persons without formal nursing education
__ __	__ __	(b) Licensed Vocational Nurse
__ __	__ __	(c) R.N. - Diploma graduate
__ __	__ __	(d) R.N. - Associate Degree graduate
__ __	__ __	(e) R.N. - Baccalaureate graduate
__ __	__ __	(f) R.N. - Master's Degree or Nurse Practitioner preparation

13. Within the past two years, have you employed a new graduate in your office who has had no previous experience as an R.N.?

____ (1) yes ____ (2) no

If you answered "no", please skip to question 16. If "yes", please answer questions 14 and 15.

14. What type of professional program had the new graduate completed?

____ (1) Diploma ____ (3) Baccalaureate
____ (2) Associate Degree ____ (4) Don't know

15. Was it necessary for you to teach the new graduate any skills which you felt should have been learned in nursing school? ____ (1) yes ____ (2) no

If "yes", please specify _____

16. Do you feel that graduates of any particular type of R.N. program (Diploma, A.D.N., or B.S.N.) make better nurses, in general, than graduates of other types of programs?

____ (1) yes ____ (2) no

If "yes", please specify the type of program and explain in what ways graduates of that type of program are different.

_____

_____

_____

17. Do you pay a salary differential for educational level to the Registered Nurses whom you employ in your office?

____ (1) yes ____ (2) no

25. Please indicate which type of R.N. graduate you feel is most effective in each of the following areas. If you feel that several categories function equally well, check more than one circle (✓).

A.D.	DIP.	B.S.	NO OPINION	
○	○	○	○	(a) giving good physical care and performing treatment procedures
○	○	○	○	(b) managing a patient care division
○	○	○	○	(c) recognizing changes in patients' conditions which require attention
○	○	○	○	(d) coping with emotional needs of patients and families
○	○	○	○	(e) providing patient teaching
○	○	○	○	(f) emergency situations
○	○	○	○	(g) other (please specify) _____

26. Do you feel that some hospitals and/or nursing homes in your area provide better nursing care than others?

____ (1) yes ____ (2) no

If "yes", please place a check in the circle (✓) to the left of each option below which is a significant factor in the institution which provide better care.

○ ____ (a) availability of modern facilities and equipment
○ ____ (b) more experienced nurses (regardless of educational level)
○ ____ (c) philosophy and administrative ability of director of nursing service
○ ____ (d) size of patient divisions
○ ____ (e) higher educational level of R.N. staff
○ ____ (f) lower rate of job turnover
○ ____ (g) availability of intensive care units with specially trained nursing staff
○ ____ (h) other (please specify) _____

Now, in question 26, please rank those factors which you checked according to their importance in influencing nursing care, with "1" being the most important. Please rank ONLY those factors which you checked and place the number in the blank to the right of your "checked circle" (✓).

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27. Please indicate by placing a check in the circle (✓) if you approve or disapprove of using R.N.'s in physicians' offices to perform the following functions:

APPROVE	DISAPPROVE	
○	○	(a) take health histories
○	○	(b) do health screening procedures
○	○	(c) counsel with patients about their treatment regimen, health maintenance, or rehabilitation techniques
○	○	(d) refer patients to community resources that would be supportive of your care and assist with health problems
○	○	(e) make home visits to check on routine evaluation of patients' status such as diet, dressing changes, BP's, discuss home adjustment problems following hospitalization, etc.
○	○	(f) conduct group teaching for such patients as diabetics, mastectomies, expectant parents, amputees, etc.

28. Would you consider referring patients with certain nursing or health needs to an independent R.N. Practitioner with a Master's or Ph.D. in nursing?

____ (1) yes ____ (2) no

If "yes", what types of problems would you consider for referral? _____

_____

29. In the chart below, please indicate by placing a check in the circle (✓) which type of R.N. graduate you feel is best prepared to work in the job settings listed.

	Operating Room (a)	Emergency Room (b)	Intensive Care (c)	Public Health (d)	Inservice Education (e)	Physicians' Office (f)
Associate Degree	○	○	○	○	○	○
Diploma	○	○	○	○	○	○
Baccalaureate	○	○	○	○	○	○

30. In your region, is it more difficult to fill R.N. positions in :

____ (1) hospitals ____ (3) other _____

____ (2) physicians' offices _____

31. To your knowledge, is there a shortage of R.N.'s in your area?

____ (1) yes ____ (2) no

If "yes", (a) what type R.N. is in greatest demand? ____ (1) Diploma ____ (2) A.D. ____ (3) B.S.N.

DO NOT USE ☐☐ (b) what do you feel would be the most effective way to solve this nursing shortage in your area? _____

_____

_____

DO NOT USE ☐☐ 32. What changes do you feel are needed in nursing education to improve the quality of professional nursing practice? _____

_____

_____

_____

The staff of the Nursing Project realizes that it is impossible to cover all the current issues of nursing education and utilization patterns in a questionnaire of this type. If you have opinions or suggestions about nursing topics that were not specifically mentioned or if you wish to elaborate on topics that are included, we would appreciate your comments.

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SURVEY OF LICENSED VOCATIONAL NURSES
Conducted By
THE COORDINATING BOARD - NURSING PROJECT

Please place a check (✓) in the appropriate blank.

1. Sex: ____ (1) Male ____ (2) Female

2. Marital Status:
____ (1) Single
____ (2) Married
____ (3) Widowed
____ (4) Divorced

3. Age: ____

4. Number of children under 18 ____

5. Location of L.V.N. program from which you graduated.
_____ County _____ State
Do Not Use

6. Year of graduation _____

7. While in your L.V.N. program did you receive
1. a stipend? ____ (1) Yes ____ (2) No
2. a loan? ____ (1) Yes ____ (2) No
3. a scholarship? ____ (1) Yes ____ (2) No

8. Type of L.V.N. program from which you graduated
____ (1) Public School Program
____ (2) Hospital Operated
____ (3) Junior College
____ (4) Qualified based on completion of 2 years in an R.N. program
____ (5) Other (please specify) _____

9. Are you currently
____ (1) active?
____ (2) inactive?
____ (3) retired?

10. If active, how long have you been employed
(a) in your present position? ____yrs.
(b) in your previous position? ____yrs.
(c) total years of employment as an L.V.N.? ____ yrs.

11. What is your present field of employment ?
____ (1) Hospital
____ (2) Nursing Home
____ (3) Office Nurse
____ (4) Private Duty
____ (5) Other (please specify) _____

12. In the space beside each type of job, please write the number of years of experience you have had in that position. If you have never worked in the area, write "0".
____ (1) Hospital Staff
____ (2) Nursing Home Staff
____ (3) Office Nurse
____ (4) Private Duty
____ (5) Other (please specify) _____

13. Please check each of the statements which influenced your decision to enter an L.V.N. program.
____ (1) To find out if I liked nursing
____ (2) Only type of nursing available in my community
____ (3) Was not familiar with other types of nursing programs
____ (4) Did not want to spend more than one year in school
____ (5) Other (please explain) _____

14. Are you currently enrolled in an R.N. program of any type?
____ (1) Yes
____ (2) No
If "yes", what type? ____ (1) Diploma ____ (2) Associate Degree ____ (3) Baccalaureate

List your reasons for deciding to enter an R.N. program. _____

_____

Why did you choose this particular type of R.N. program? _____

_____

15. Are you currently enrolled in a college program of any type? ____(1)Yes ____(2)No

If "yes", please specify _____

16. If you are not currently enrolled in a college, please indicate which of the following choices best describes your present educational plans.
____ (1) No further formal educational programs
____ (2) Plan to enter an R.N. program to obtain a Diploma (3 yrs.)
____ (3) Plan to enter an R.N. program to obtain an Associate Degree (2 yrs.)
____ (4) Plan to enter an R.N. program to obtain a Bachelors Degree (4 yrs.)
____ (5) Plan to enter a Junior College but not major in nursing
____ (6) Plan to enter a University but not major in nursing
____ (7) Other (please specify) _____

17. What is your present general education level?
Years of High School completed (circle the appropriate number of years) 1 2 3 4
Did you receive a diploma by
____ (1) completing 4 years of High School?
____ (2) passing the G.E.D.?
Years of College completed (circle the appropriate number of years) 1 2 3 4

18. What is the highest educational level you plan to attain?
____ (1) High School Diploma
____ (2) Diploma in Nursing
____ (3) Associate Degree
____ (4) Baccalaureate Degree
____ (5) Masters Degree
____ (6) Doctorate
____ (7) Other (please specify) _____

19. Have you ever been required to be charge nurse of a patient division in a hospital or nursing home for an entire shift?
In your present position? ____ (1) Yes ____ (2) No
In other positions? ____ (1) Yes ____ (2) No
If "yes", on what shift(s) have you been in charge? (check all that apply)
____ (1) Days ____ (2) Evenings ____ (3) Nights

20. Did your L.V.N. program provide you with the knowledge and skills needed to act as a team leader or charge nurse?
____ (1) Yes ____ (2) No
If you answered "no", do you feel that L.V.N. programs should provide these competencies?
____ (1) Yes ____ (2) No

21. Please check the two inservice or continuing education programs which would be of greatest benefit to you. (Check no more than two responses.)
____ (1) New equipment and procedures
____ (2) More about actions of drugs
____ (3) How to be a team leader
____ (4) More anatomy or physiology about diseases
____ (5) Health needs in the community
____ (6) How illness affects a patient behavior
____ (7) Ward management

22. In your present job, do you work with any nurses who received their R.N. education in other countries?
____ (1) Yes ____ (2) No

23. Are there factors which would prevent you from accepting an attractive job offer in another geographical area more than 50 miles from your current residence?
____ (1) Yes
____ (2) No

24. Do you feel that there is a shortage of L.V.N.'s in most of the larger cities and towns in the state?
____ (1) Yes
____ (2) No

25. Which of the following programs do you feel is the most effective for preparing L.V.N.'s? (with all programs having adequate experience in the hospital)
____ (1) Hospital Operated
____ (2) Public School
____ (3) Junior College
____ (4) Other (please specify) _____

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26. PLEASE CIRCLE THE NUMBER IN THE COLUMN THAT BEST INDICATES YOUR ATTITUDE TOWARD EACH OF THE STATEMENTS BELOW. PLEASE DO NOT SKIP ANY QUESTIONS.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	1	2	3	4	5
a. I am satisfied with my present job.	1	2	3	4	5
b. I am fully utilizing my capabilities.	1	2	3	4	5
c. The salary I receive is satisfactory for the job I have.	1	2	3	4	5
d. I receive adequate recognition and credit for the work I do.	1	2	3	4	5
e. I think that I am capable of functioning at a higher level now if I were allowed to assume other responsibilities.	1	2	3	4	5
f. I believe that I am qualified to function as a team leader or charge nurse.	1	2	3	4	5
g. I believe that L.V.N.'s do everything that R.N.'s do.	1	2	3	4	5
h. The salaries of L.V.N.'s should be closer to those R.N.'s receive.	1	2	3	4	5
i. I feel that I have had to assume responsibilities and perform functions for which I am not prepared.	1	2	3	4	5
j. More L.V.N.'s would enter college R.N. programs if they received some automatic college credit for their L.V.N. preparation.	1	2	3	4	5
k. Graduates of L.V.N. programs which are not located in colleges or universities should not receive college credit when they enter an R.N. program.	1	2	3	4	5
l. Graduates of any L.V.N. program should receive some automatic college credit when they enroll in an R.N. program.	1	2	3	4	5

27. What changes, if any, do you think should be made in the educational preparation of L.V.N.'s? (Please check all that apply.)

____ (1) No changes
____ (2) Longer program
____ (3) More classroom work
____ (4) More clinical experience
____ (5) Should be more on a college level (such as a community college)
____ (6) More leadership experience
____ (7) Shorter program
____ (8) More clinical experiences outside the hospital
____ (9) Other (please explain) _____

28. Do you think that current health care delivery trends will affect the need for L.V.N.'s in specific job settings?

____ (1) Yes If "yes", please explain _____
____ (2) No

29. A student who attends college for 12 months could earn approximately 42 semester hours of credit. How many semester hours of college credit do you think an L.V.N. should receive for her L.V.N. program when she enters an R.N. program?

____ credit hours

Thank you for your participation.

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STUDENT MOBILITY QUESTIONNAIRE

1. Sex:
   ___ 1. Male
   ___ 2. Female

2. Marital Status:
   ___ 1. Single
   ___ 2. Married

3. Age ____

4. Name of Nursing School you are presently attending?_____

5. Please check the type of program you are attending and your year of attendance.

☐ 1. Diploma
   ___ 1st Year
   ___ 2nd Year

☐ 2. Baccalaureate
   ___ 1st Year
   ___ 2nd Year
   ___ 3rd Year
   ___ 4th Year

☐ 3. Associate Degree
   ___ 1st Year
   ___ 2nd Year

☐ 4. Graduate
   ___ 1st Year
   ___ 2nd Year
   ___ 3rd Year

6. What is your expected date of graduation: _____ (month) _____ (year)

7. Are you a:
   ___ 1. Full time student (12 or more semester hours)
   ___ 2. Part time student (less than 12 semester hours)

8. Do you:
   ___ 1. Commute from outside the city limits
   ___ 2. Live on campus or in the city where the school is located

9. If you commute, what is the approximate distance from your residence to campus?
   ___ 1. 0 - 9 miles
   ___ 2. 10 - 19 miles
   ___ 3. 20 - 29 miles
   ___ 4. 30 - 39 miles
   ___ 5. 40 - 49 miles
   ___ 6. 50 miles or more

10. Where did you graduate from high school?

_____ (City) _____ (County) _____ (State) _____ (Year)

11. In what city and county are you living while attending this school?

_____ (City) _____ (County) _____ (State)

12. Where were you living at the time you applied for admission to this nursing program?

_____ (City) _____ (County) _____ (State)

13. What is the approximate distance from this school to the city listed in the previous question? _____ miles (If same city put "0")

14. What is the name of your hometown or permanent residence?

_____ (City) _____ (State)

15. What is the approximate population of your hometown?

1. ___ Less than 1,000
2. ___ 1,000 to 2,499
3. ___ 2,500 to 4,999
4. ___ 5,000 to 9,999
5. ___ 10,000 to 24,999
6. ___ 25,000 to 49,999
7. ___ 50,000 to 99,999
8. ___ 100,000 to 249,999
9. ___ 250,000 to 499,999
10. ___ 500,000 to 999,999
11. ___ 1,000,000 or more
12. ___ Do not know

16. Do you have family responsibilities that would prevent you from attending a school in another geographic area?
   ___ 1. Yes
   ___ 2. No

17. Is this school the closest R.N. program of any type to where you were living when you applied for admission?
   ___ 1. Yes
   ___ 2. No
   ___ 3. Do not know

18. Why did you choose to enter this particular type of program? (Diploma, A.D., or Baccalaureate) _____

19. How many schools of nursing did you investigate before choosing this school?
   ___

20. How did you first obtain information about this school?
   ___ 1. You requested information.
   ___ 2. The school SENT YOU information.
   ___ 3. You received information through a Careers Program.
   ___ 4. Other (please specify) _____

21. Please indicate those factors that influenced your choice of this particular school. (Please check in the box)
   ___ ☐ 1. Nearness to home.
   ___ ☐ 2. Costs of the program.
   ___ ☐ 3. Length of the program.
   ___ ☐ 4. Availability of part-time work.
   ___ ☐ 5. Characteristics of the curriculum.
   ___ ☐ 6. Reputation of the program.
   ___ ☐ 7. Cultural or entertainment advantages of the city.
   ___ ☐ 8. Recommended by friends or counselors.
   ___ ☐ 9. Availability of challenge exams or credit allowed for recognition of prior nursing experience.
   ___ ☐ 10. Transferability of credits from other institutions.
   ___ ☐ 11. Family member on active duty at nearby military installation.
   ___ ☐ 12. Other. Please specify _____

22. Now please rank, in order of importance, those factors which you checked in the above question. Use "1" for the most important factor. Place the number in the blank to the left of the "checked" box. Remember, rank only those factors for which you checked the box.

23. Was your choice of a nursing school influenced by the availability of financial assistance?
   ___ 1. Yes
   ___ 2. No

24. If yes, what type of assistance is applicable to you?
   ___ 1. Scholarships
   ___ 2. Army Student Assistance Programs
   ___ 3. Navy Student Assistance Programs
   ___ 4. Air Force Sponsored Program
   ___ 5. Nurse Traineeships for R.N.'s
   ___ 6. Government Student Loans
   ___ 7. Other Type Loan
   ___ 8. State Stipend

25. Has a member of your family ever attended this institution?
   ___ 1. Yes
   ___ 2. No

26. If yes, in:
   ___ 1. Nursing
   ___ 2. Another Major (specify)_____

27. Prior to admission to this school of nursing did you have any experience, certification, or licensure in a health field?
   ___ 1. Yes
   ___ 2. No

28. If yes, in which of the following fields:
   ___ 1. Volunteer work
   ___ 2. Armed Forces
   ___ 3. Future Nurse Club
   ___ 4. Technician Specialty (specify) _____
   ___ 5. Licensed Vocational Nurse - program attended _____
   ___ 6. Nurses' Aide
   ___ 7. Orderly
   ___ 8. R.N.
   ___ 9. Other (please specify) _____

29. Do you hold a degree in a field other than nursing?
   ___ 1. Yes (please specify) _____
   ___ 2. No

30. Are you interested in working in one of the following areas of expanded nurse practice? ___ Yes ___ No If yes, please indicate:
   ___ 1. Pediatric Nurse Practitioner
   ___ 2. Family Nurse Practitioner
   ___ 3. School Nurse Practitioner
   ___ 4. Clinical Specialist (please specify) _____
   ___ 5. Other (please specify) _____

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31. How many institutions of higher education have you attended other than the one in which you are currently enrolled? _____

32. Please list the institutions attended and indicate the duration of attendance. List the most recent school first.

Name of Institution	Major	Length of Time in Attendance: Less than 1 year	1 year	2 years	3 years
1. _____	___	○	○	○	○
2. _____	___	○	○	○	○
3. _____	___	○	○	○	○

33. Have you changed your major?

___ 1. Yes. From what? _____
___ 2. No.

34. Did the change of your major require a change of institutions?

___ 1. Yes
___ 2. No

35. Where do you expect to practice the first year following your graduation?

_____ (City) _____ (County) _____ (State)

36. Would you accept employment in a location other than the one indicated in the previous question?

___ 1. Yes
___ 2. No. Please state reason: _____

37. If yes,

___ 1. In another region of the state
___ 2. In another nearby state
___ 3. In any state

38. If yes, please indicate, by a check in the box, the factors that would influence your selection of the alternate location.

☐ 1. Nearness to a preferred location
☐ 2. Opportunity to work in a large medical center
☐ 3. Opportunity for advancement in responsibility
☐ 4. Salary levels and benefits
☐ 5. Cultural or entertainment advantages
☐ 6. Location of husband's job

39. Now, please rank in order of importance those factors which you checked in the above question. The "1" for the most important factor; "2" for the second most important, etc. Please place the number in the blank to the left of the "checked" box. Rank only those items for which you checked the box.

40. In what area of nursing practice would you like to work the year following your graduation?

___ 1. Small hospital (25 - 100 beds)
___ 2. Medium size hospital (100 - 300 beds)
___ 3. Large medical center
___ 4. Nursing home
___ 5. School of Nursing
___ 6. Private duty
___ 7. Public Health (Except 8 below)
___ 8. School Nurse
___ 9. Industrial Nurse
___ 10. Office Nurse for a Physician or Dentist
___ 11. Armed Forces
___ 12. Other (please specify) _____

41. Why is this area of practice your preference? _____

42. Would you prefer to practice in a:

___ 1. Predominantly rural area
___ 2. Predominantly urban area

43. What is the highest educational level you hope to obtain?

___ 1. Diploma
___ 2. Associate Degree
___ 3. Baccalaureate
___ 4. Master's
___ 5. Ph.D.

44. Which of the career patterns listed below best matches your present plans?

___ 1. To practice nursing full-time for the rest of my work life.
___ 2. To practice nursing full-time before I have a family, then stop working forever.
___ 3. To practice nursing full-time before I have a family, then part-time while raising the children.
___ 4. To practice nursing full-time before I have a family, stop work while children are in school, then resume my career.
___ 5. To work part-time only, for the rest of my work life.
___ 6. Do not plan to practice nursing.
___ 7. Other: _____

45. If you would be willing to participate in future follow-up studies, please provide your name in the space below.

_____

THIS SECTION IS TO BE COMPLETED ONLY BY THOSE STUDENTS WHO ARE ALREADY R.N.'s AND ARE WORKING ON EITHER A BACCALAUREATE DEGREE OR A GRADUATE DEGREE.

46. What was your initial level of professional preparation?

___ 1. Diploma
___ 2. Associate Degree
___ 3. Baccalaureate

47. Name of institution where your initial nursing education was received?

Name _____ Year _____

City _____ County _____ State _____

48. Why did you choose this type of program? _____

49. What is your area of graduate specialization within nursing? (If double major please check both)

___ 1. Clinical Specialist (specify area) _____
___ 2. Education
___ 3. Administration
___ 4. Other (specify) _____

50. In what states are you presently licensed?

1. _____ ___ ___
2. _____ ___ ___
3. _____ ___ ___

51. Were you employed as an R.N. immediately prior to your entering this program?

___ 1. Yes ___ 2. No

52. What experience have you had as an R.N.?

___ 1. Small Hospital (25 - 100 beds)
___ 2. Medium Hospital (100 - 300 beds)
___ 3. Large Medical Center
___ 4. Nursing Home
___ 5. School of Nursing
___ 6. Private Duty
___ 7. Public Health (except 8)
___ 8. School Nurse
___ 9. Industrial Nurse
___ 10. Office Nurse (Physician or Dentist)
___ 11. Armed Forces
___ 12. Other (please specify) _____

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SURVEY OF UTILIZATION PATTERNS OF R.N.'s AND L.V.N.'s EMPLOYED IN HOSPITALS

PART I

1. SEX: ____ (1) Male ____ (2) Female

2. AGE: _____

3. Please indicate all nursing programs from which you have GRADUATED.

Program	Year of Graduation	School Name	State	Please do not use.
(1) LVN	19__			
(2) Diploma	19__			
(3) Associate	19__			
(4) Baccalaureate	19__			
(5) Masters	19__			
(6) Doctorate	19__			

4. Have you earned any additional non nursing degree(s)? ___(1) Yes ___(2) No

If yes, please specify _____

5. Are you currently enrolled in any nursing program leading to a diploma or a degree? ___(1) Yes ___(2) No

If "Yes", type of program: ___(1) Diploma ___(3) B.S.N.
___(2) A.D. ___(4) Graduate

6. Have you taken any courses for credit while NOT enrolled in a specific program leading to a diploma or degree? ___(1) Yes ___(2) No

7. If you answered the last question "Yes", what was your primary reason for taking this/these course(s)? Check one.

___(1) To up-date nursing skills or abilities
___(2) Required by employer
___(3) Eventually hope to apply to a degree
___(4) Other _____

8. Please indicate on the chart below the positions and amount of experience you have had in each category.

	Months of Experience in This Position in This Hospital	Months of Experience in This Position in Other Hospitals
1. Staff--RN or LVN		
2. Head Nurse		
3. Clinical Specialist		
4. Inservice Educator		
5. Nursing Service Director or Assistant Director		
6. Other (specify)_____		

*In the above question, please place a circle around the number of the category which indicates your current position.

9. What is the specific job title of your present position? ☐☐

_____

10. To whom does the hospital indicate you are responsible? (Position title(s) only; no names) ☐☐

_____

11. What is the title of the person who actually supervises your work? ☐☐

_____

12. What is the title of the person whom you think should supervise your work? ☐☐

_____

13. Are you employed: ___(1) Full-time ___(2) 16-38 Hrs/Wk ___(3) Less than 16 Hrs/Wk ___(4) On call only

14. What is your usual shift? ___(1) Days only ___(2) Evenings only ___(3) Nights only ___(4) Rotate all shifts ___(5) Rotate days & evenings ___(6) Other (specify) _____

15. Which of the following categories applies to your position?

___(1) Work in the same location on a permanent basis
___(2) Work PRN on a floating basis
___(3) Other (specify) _____

16. Please complete this following chart indicating your hospital experience as a nurse in each of the areas listed.

	No. Months of Experience in This Specialty in This Hospital	No. Months of Experience in This Specialty in Other Hospitals
(01) Burn unit		(01)
(02) Clinic		(02)
(03) Coronary care unit		(03)
(04) Dialysis unit		(04)
(05) Emergency room		(05)
(06) Endocrine-Metabolic		(06)
(07) Gynecology		(07)
(08) Ear, Nose, Throat		(08)
(09) Labor & Delivery room		(09)
(10) Medical (General)		(10)
(11) Medical ICU		(11)
(12) Neurology		(12)
(13) Nursery		(13)
(14) Post Partum unit		(14)
(15) Oncology		(15)
(16) Ophthalmology		(16)
(17) Operating room		(17)
(18) Orthopedics		(18)

Continued on page 4

Continued from page 3

	No. Months of Experience in This Specialty in This Hospital	No. Months of Experience in This Specialty in Other Hospitals
(19) Pediatrics		(19)
(20) Psychiatry		(20)
(21) Radiation therapy		(21)
(22) Recovery room		(22)
(23) Rehabilitation unit		(23)
(24) Respiratory care unit		(24)
(25) Surgical (General)		(25)
(26) Surgical ICU		(26)
(27) Urology		(27)
(28) Other (specify)		(28)

_____

*In the question above, please place a circle around the number(s) of the specialty or unit(s) where you are currently working.

17. Does your area have a clerk to perform non-nursing duties? ___(1) Yes ___(2) No

18. If yes, please indicate on the chart below the times when a clerk is on duty.

Shift	(1) 7 Days/Wk	(2) Mon-Fri	(3) None	(4) Other (specify)
(1) Days				
(2) Evenings				
(3) Nights				

19. On your unit does the clerk (check all that apply)

___(1) Work only on your unit
___(2) Work on two or more units as needed
___(3) Work a full shift
___(4) Work part of a shift

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IF YOU DO NOT PRACTICE TEAM NURSING, PLEASE SKIP TO QUESTION 26.

20. Please place a check in the appropriate column for each shift.

Team Nursing is practiced:	(1) Daily	(2) Mon-Fri	(3) If adequate staff is available	(4) Depends on who is charge nurse
(1) on the day shift				
(2) on the evening shift				
(3) on the night shift				

21. I act as team leader:

___ (1) Whenever I am on duty

___ (2) I alternate with other staff nurses regularly

___ (3) Only if I am the only licensed nurse in my area

___ (4) Other (specify) _____

22. Team conferences (patient care conferences) are held in my area:

___ (1) Daily ___ (3) Monthly ___ (5) Other (specify) _____

___ (2) Weekly ___ (4) Never

23. When team conferences are held, I act as conference leader:

___ (1) Whenever I am on duty

___ (2) Only when I am team leader

___ (3) If I have been assigned to prepare special material

___ (4) If the conference is about my patient

___ (5) Never

24. I make patient care assignments:

___ (1) Only when I am team leader ___ (3) Never

___ (2) Daily - but not as team leader ___ (4) Other (specify) _____

25. In my area the primary consideration for making patient assignments is: (Please check only one)

___ (1) Patient location (a group of beds or rooms together)

___ (2) Patient diagnosis

___ (3) Amount of care required

___ (4) Type of educational background of personnel

___ (5) Other (specify) _____

Comments:

IF NURSING CARE PLANS ARE NOT USED IN YOUR AREA, PLEASE SKIP TO QUESTION 30.

26. Nursing care plans are kept up to date and are used regularly in my area ___(1) Yes ___(2) No

27. Nursing care plans in my area are:

___ (1) A part of the treatment and medication kardex

___ (2) A separate kardex or file

28. Notations on nursing care plans in my area are made by

___ (1) R.N.'s only

___ (2) R.N.'s and L.V.N.'s only

___ (3) A specific nurse (title) _____

___ (4) All members of the nursing staff (including aides and students)

29. I make notations on nursing care plans

___ (1) On all the patients I am assigned to

___ (2) Only on the most complex or critical patients

___ (3) Any patient in the area when need indicates

___ (4) I would like to make notations but seldom have time

___ (5) Never

30. In Column I below, please place a check in the box next to the title of each person to whom you have personally communicated suggestions to increase the efficiency of hospital employees in delivering improved care for all patients.

In Column II, please place a check in the box next to the title of each person to whom you have personally communicated suggestions for improving care for specific patients based on their individual needs.

	Column I: Suggestions for Organizational or Procedural Changes	Column II: Suggestions to Improve Care for Specific Patients
1. Team Member	☐ ___	☐ ___
2. Team Leader	☐ ___	☐ ___
3. Head Nurse	☐ ___	☐ ___
4. Supervisor	☐ ___	☐ ___
5. Clinical Specialist	☐ ___	☐ ___
6. Director of Nursing Service	☐ ___	☐ ___
7. Physician	☐ ___	☐ ___
8. Hospital Administrator	☐ ___	☐ ___
9. Head of another Hosp. Dept.	☐ ___	☐ ___
10. Employee of another Dept.	☐ ___	☐ ___
11. Other (specify) _____	☐ ___	☐ ___

Now, in Column I above, please rank in order of frequency of contact the titles of persons whom you checked. Use "1" for the most frequently contacted person. Place the number in the blank to the right of the checked box. Remember, rank only those which you checked!

Now, please rank the boxes checked in Column II in the same manner.

31. In Column A below, please place a check in the box next to each method which you have used to communicate suggested organizational changes to improve delivery of patient care.

In Column B, please place a check in the box next to each method which you have used to communicate suggestions for improving care for specific patients.

	Column A	Column B
(1) Care Plans	☐ ___	☐ ___
(2) Shift Report	☐ ___	☐ ___
(3) Patient or Team Conferences	☐ ___	☐ ___
(4) Personal talks with individuals	☐ ___	☐ ___
(5) Written reports or suggestions to specific persons	☐ ___	☐ ___
(6) As Member of a Committee	☐ ___	☐ ___

Now, in Column A above, please rank in order of frequency used the method of communication which you checked. Use "1" for the most frequently used method. Place the number in the blank to the right of the checked box. Remember, rank only those which you checked!

Now, please rank the boxes checked in Column B in the same manner.

You have finished Part I. Please turn the page and complete Part II.

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PART II

For each Activity, please circle the appropriate response in each of the four columns.

32. ACTIVITIES	Did you do this while you were a student (1) Yes (2) No	At the time of graduation did you feel prepared to do this independently (1) Yes (2) No	Have you done this as a licensed LVN or RN (1) Yes (2) No	Have you done this in your present position (1) Yes (2) No (3) Not Applicable
01 Personally communicate suggestions for procedural changes to administration.	Yes No	Yes No	Yes No	Yes No NA
02 Participate in nursing or hospital committees	Yes No	Yes No	Yes No	Yes No NA
03 Initiate teaching or health maintenance measures for patients or families (i.e. breast self exam; annual check ups, immunizations, etc.)	Yes No	Yes No	Yes No	Yes No NA
04 Give IM or subcutaneous injections	Yes No	Yes No	Yes No	Yes No NA
05 Prepare a room for a new admission	Yes No	Yes No	Yes No	Yes No NA
06 Mix I.V. Solutions	Yes No	Yes No	Yes No	Yes No NA
07 Start I.V.s (venapuncture)	Yes No	Yes No	Yes No	Yes No NA
08 Remove I.V. needles	Yes No	Yes No	Yes No	Yes No NA
09 Make rounds with physicians	Yes No	Yes No	Yes No	Yes No NA
10 Act as team leader	Yes No	Yes No	Yes No	Yes No NA
11 Conduct team conferences	Yes No	Yes No	Yes No	Yes No NA
12 Suction trachea via trach tube	Yes No	Yes No	Yes No	Yes No NA
13 Oropharyngeal suction	Yes No	Yes No	Yes No	Yes No NA

32. (Continued) ACTIVITIES	Did you do this while you were a student (1) Yes (2) No	At the time of graduation did you feel prepared to do this independently (1) Yes (2) No	Have you done this as a licensed LVN or RN (1) Yes (2) No	Have you done this in your present position (1) Yes (2) No (3) Not Applicable
14 Change inner trach tube cannula	Yes No	Yes No	Yes No	Yes No NA
15 Give O_2 by mask or canula	Yes No	Yes No	Yes No	Yes No NA
16 Give IPPB treatments	Yes No	Yes No	Yes No	Yes No NA
17 Messenger trips to pharmacy, central supply	Yes No	Yes No	Yes No	Yes No NA
18 Order supplies for a whole division or area	Yes No	Yes No	Yes No	Yes No NA
19 Housekeeping tasks	Yes No	Yes No	Yes No	Yes No NA
20 Ambulate patients	Yes No	Yes No	Yes No	Yes No NA
21 Perform passive range of motion	Yes No	Yes No	Yes No	Yes No NA
22 Insert urethral catheters	Yes No	Yes No	Yes No	Yes No NA
23 Irrigate Foley catheters	Yes No	Yes No	Yes No	Yes No NA
24 Irrigate colostomy	Yes No	Yes No	Yes No	Yes No NA
25 Develop and execute patient care plans	Yes No	Yes No	Yes No	Yes No NA
26 Include nursing care objectives on care plans	Yes No	Yes No	Yes No	Yes No NA
27 Develop written home care plan with patient to be discharged	Yes No	Yes No	Yes No	Yes No NA
28 Chart vital signs	Yes No	Yes No	Yes No	Yes No NA
29 Apply soaks or compresses	Yes No	Yes No	Yes No	Yes No NA
30 Apply topical medication	Yes No	Yes No	Yes No	Yes No NA

32. (Continued) ACTIVITIES	Did you do this while you were a student (1) Yes (2) No	At the time of graduation did you feel prepared to do this independently (1) Yes (2) No	Have you done this as a licensed LVN or RN (1) Yes (2) No	Have you done this in your present position (1) Yes (2) No (3) Not Applicable
31 Feed patients by mouth	Yes No	Yes No	Yes No	Yes No NA
32 Feed patients by N/G or gastrostomy tube	Yes No	Yes No	Yes No	Yes No NA
33 Make patient referrals	Yes No	Yes No	Yes No	Yes No NA
34 Take a patient's physical history	Yes No	Yes No	Yes No	Yes No NA
35 Take a patient's psychosocial history	Yes No	Yes No	Yes No	Yes No NA
36 Place a patient on a hypothermia machine	Yes No	Yes No	Yes No	Yes No NA
37 Operate renal dialysis equipment	Yes No	Yes No	Yes No	Yes No NA
38 Monitor central venous pressure	Yes No	Yes No	Yes No	Yes No NA
39 Set up and monitor chest drainage bottles	Yes No	Yes No	Yes No	Yes No NA
40 Draw blood samples	Yes No	Yes No	Yes No	Yes No NA
41 Develop teaching plans and conduct classes for groups of patients (such as diabetics, mastectomy pts. etc.)	Yes No	Yes No	Yes No	Yes No NA
42 Develop and implement a teaching plan for individual patients	Yes No	Yes No	Yes No	Yes No NA
43 Make patient care assignments for a group of nursing personnel	Yes No	Yes No	Yes No	Yes No NA

32. (Continued) ACTIVITIES	Did you do this while you were a student (1) Yes (2) No	At the time of graduation did you feel prepared to do this independently (1) Yes (2) No	Have you done this as a licensed LVN or RN (1) Yes (2) No	Have you done this in your present position (1) Yes (2) No (3) Not Applicable
44 Take EKGs	Yes No	Yes No	Yes No	Yes No NA
45 Read EKGs	Yes No	Yes No	Yes No	Yes No NA
46 Monitor patient's heart activity	Yes No	Yes No	Yes No	Yes No NA
47 Defibrillate patient	Yes No	Yes No	Yes No	Yes No NA
48 Perform cardio-pulmonary resuscitation by self or with 1 other person	Yes No	Yes No	Yes No	Yes No NA
49 Take a nursing history	Yes No	Yes No	Yes No	Yes No NA
50 Evaluate job performance of personnel in written reports	Yes No	Yes No	Yes No	Yes No NA
51 Counsel with employees about their job performance	Yes No	Yes No	Yes No	Yes No NA
52 Set up traction apparatus	Yes No	Yes No	Yes No	Yes No NA
53 Take vital signs	Yes No	Yes No	Yes No	Yes No NA
54 Test urine for sugar and acetone	Yes No	Yes No	Yes No	Yes No NA
55 Measure specific gravity of urine	Yes No	Yes No	Yes No	Yes No NA
56 Measure intake & output	Yes No	Yes No	Yes No	Yes No NA
57 Make nursing diagnoses	Yes No	Yes No	Yes No	Yes No NA
58 Write nursing orders on chart	Yes No	Yes No	Yes No	Yes No NA
59 Establish priorities for nursing care	Yes No	Yes No	Yes No	Yes No NA

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32. (Continued)

ACTIVITIES	Did you do this while you were a student (1) Yes	(2) No	At the time of graduation did you feel prepared to do this independently (1) Yes	(2) No	Have you done this as a licensed LVN or RN (1) Yes	(2) No	Have you done this in your present position (1) Yes	(2) No	(3) Not Applicable
60 Change dressings	Yes	No	Yes	No	Yes	No	Yes	No	NA
61 Remove sutures and skin clips	Yes	No	Yes	No	Yes	No	Yes	No	NA
62 Pass naso-gastric tubes	Yes	No	Yes	No	Yes	No	Yes	No	NA
63 Remove naso-gastric tubes	Yes	No	Yes	No	Yes	No	Yes	No	NA
64 Transcribe doctors orders	Yes	No	Yes	No	Yes	No	Yes	No	NA
65 Pass Miller-Abbott tubes	Yes	No	Yes	No	Yes	No	Yes	No	NA
66 Remove Miller-Abbott tubes	Yes	No	Yes	No	Yes	No	Yes	No	NA
67 Give oral, rectal, sublingual medicine	Yes	No	Yes	No	Yes	No	Yes	No	NA
68 Give an enema	Yes	No	Yes	No	Yes	No	Yes	No	NA
69 Give a douche	Yes	No	Yes	No	Yes	No	Yes	No	NA
70 Transport patients	Yes	No	Yes	No	Yes	No	Yes	No	NA
71 Clerical duties	Yes	No	Yes	No	Yes	No	Yes	No	NA
72 Teach crutch walking	Yes	No	Yes	No	Yes	No	Yes	No	NA
73 Apply and read skin tests	Yes	No	Yes	No	Yes	No	Yes	No	NA
74 Apply ACE or pressure bandages	Yes	No	Yes	No	Yes	No	Yes	No	NA
75 Give bed baths	Yes	No	Yes	No	Yes	No	Yes	No	NA
76 Change bed linen	Yes	No	Yes	No	Yes	No	Yes	No	NA

33. If you work in a specialized area (such as O.R., labor and delivery, etc.) please list procedures specific to your area in which beginning nurses should be competent.

	Did you feel prepared to do this task independently when you graduated?	
1. _____	1) Yes	2) No
2. _____	1) Yes	2) No
3. _____	1) Yes	2) No
4. _____	1) Yes	2) No
5. _____	1) Yes	2) No

34. *For questions 34 - 38 please answer on the basis of your current license (L.V.N. or R.N.). If you are an R.N. who was once an L.V.N., answer on the basis of your first job as an R.N.*

In your first position as a licensed nurse did your job require you to perform procedures or assume responsibilities for which your education had not prepared you? _____(1) Yes _____ (2) No

35. If you answered "yes" to the previous question, please specify the types of activities for which you felt unprepared.

36. Do you feel that your basic nursing education has provided you with skills or abilities which could be utilized in your present position but which for some reason you are unable to apply?

_____(1) Yes _____(2) No

37. If you answered the above question "yes", please specify what these unused abilities are.

38. What factors do you feel contribute to the lack of utilization of these abilities?

39. What specific changes in your present job situation would enable you to utilize your nursing abilities to a greater degree?

40. Assuming a normal orientation to the unique aspects of a particular institution or agency, do you believe current professional nursing education has adequately prepared the new graduate of the following programs to function in beginning positions -

a. Diploma _____ (1) Yes _____ (2) No
b. Associate Degree _____ (1) Yes _____ (2) No
c. Baccalaureate _____ (1) Yes _____ (2) No

41. If you answered "No" to the previous question, what specific changes in the educational preparation of nurses would enable them to function more effectively in the job setting?

Please do not mis.

☐ Diploma:

☐ Associate Degree:

☐ Baccalaureate:

THANK YOU FOR YOUR PARTICIPATION.

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STUDENT CURRICULUM OPINION SURVEY

SECTION I

1. Sex: ____ (1) male ____ (2) female

2. Age: ____

3. Marital Status: ____ (1) single ____ (2) married ____ (3) widowed, divorced

4. Type of nursing program: ____ (1) Baccalaureate ____ (3) Associate Degree ____ (2) Diploma

5. Are you a: ____ (1) Registered Nurse ____ (2) Licensed Vocational Nurse

6. What is your current grade-point average on a four-point scale? _____

7. What is the title and course number of this course? _____

8. Does this course have a clinical lab? ____ (1) yes ____ (2) no

9. For each question below, please check the appropriate answer in both Column A and Column B. The option in Column A, "Not Applicable", is primarily for questions about clinical experience if your present course does not have a clinical lab.

	COLUMN A: In This Course			COLUMN B: In Most Other Nursing Courses in This Curriculum	
	1 Yes	2 No	3 Not Applicable	1 Yes	2 No
(1) Objectives are reviewed in class at the beginning of the course.					
(2) Objectives are referred to frequently by the instructor and related to the material being presented.					
(3) The course objectives are helpful in knowing what to study for on tests.					
(4) Course Objectives are helpful in preparing for daily classroom assignments.					
(5) Course objectives are helpful in preparing for daily clinical lab assignments.					

	COLUMN A: In This Course			COLUMN B: In Most Other Nursing Courses in This Curriculum	
	1 Yes	2 No	3 Not Applicable	1 Yes	2 No
(6) The student is expected to develop his own objectives for clinical lab in addition to those in the course outline.					
(7) Students receive an individual evaluation of their achievement of specific objectives by a faculty member.					
(8) Students are required to do a self-evaluation of their achievement of specific objectives.					
(9) All course content is organized around a unifying theme.					
(10) Course content is primarily based on units for each major body system.					
(11) Course content is based on the nursing "process".					
(12) Course content effectively builds on specific knowledge obtained in pre-nursing courses and/or previous nursing courses.					
(13) Course content is primarily organized around types of problems (such as "mobility", "exchange of O_2", "metabolism").					
(14) Course content is organized in modules that allow the student to choose his own sequence and his own pace.					
(15) The course bibliography contains journal references as recent as six months or less.					
(16) The course bibliography has a majority of references more than four or five years old.					

	COLUMN A: In This Course			COLUMN B: In Most Other Nursing Courses in This Curriculum	
	1 Yes	2 No	3 Not Applicable	1 Yes	2 No
(17) The bibliography contains a variety of references from publications that are not strictly nursing or medicine.					
(18) Clinical experience is sufficient in length to master most technical procedures.					
(19) Clinical experience provides adequate opportunity to apply nursing theory under realistic conditions.					
(20) Clinical experience in the hospital is provided on all three shifts.					
(21) Clinical experiences are usually related to theory being currently presented in class.					
(22) In clinical lab, the student is accepted by the regular staff as a member of the nursing team.					
(23) Students may choose an area of clinical assignment (med-surg division, OB-Gyn, Pedi, etc.) if the area can provide experiences to meet the objectives of the course.					

SECTION II

For each question below place a check (✓) in Column A next to each option which applies to this course. In Column B please check the one option which would best meet your learning needs.

	COLUMN A (This Course)	COLUMN B (My Preference)
10. The objectives for this course are:		
(1) Given to the student for the entire course at the beginning of the course.		
(2) Given to the students at the beginning of each unit.		
(3) Developed cooperatively by faculty and students.		
11. Students receive information on class topics, clinical lab areas and reading assignments:		
(1) For the entire course at the beginning of the course.		
(2) For each unit, just before the unit begins.		
(3) On a weekly basis.		
(4) On an irregular basis.		
(5) Other (please specify) _____		
12. Reading assignments for this course utilize:		
(1) One major textbook		
(2) Several textbooks		
(3) No regular textbook		
(4) Bibliographic references only		
(5) Other (please specify) _____		
13. The most frequently used method of evaluation of theory in this course is:		
(1) Written objective tests (multiple choice, true-false, etc.)		
(2) Written essay tests		
(3) Oral examinations		
(4) Classroom participation		
(5) Special projects (please specify) _____		
(6) Other		

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	COLUMN A (This Course)	COLUMN B (My Preference)

14. Supervision in the clinical setting in this course falls into which of the following categories?

(1) An instructor is in the immediate area at all times. ____ ____
(2) An instructor is not always in the area but is available on call by paging, etc. ____ ____
(3) Supervision is primarily by area staff with post clinical conference with an instructor. ____ ____
(4) Other (please specify) _____ ____ ____

15. If a student has difficulty with portions of course content, what resources are available to him?

(1) Tutoring sessions with an instructor on request. ____ ____
(2) Tutoring sessions with another student. ____ ____
(3) Learning resource center with audio-visual aids and a faculty member available. ____ ____
(4) Group study sessions on a regular basis. ____ ____
(5) Special remedial program for specific learning problems. ____ ____
(6) Other (please specify) _____ ____ ____

16. Please indicate which of the following teaching methods are used most frequently in this course by placing a "1" next to the method used most often, "2" in the next most frequent method, etc. In Column B, rank the methods according to your preference.

	RANK (This Course)	RANK (My Preference)
(1) Lecture	____	____
(2) Group discussion	____	____
(3) Presentations by students	____	____
(4) Audio-visual media (tapes, films, slides, T.V.)	____	____
(5) Independent study	____	____
(6) Team teaching	____	____
(7) Other (please specify) _____	____	____

17. In Column A, please rank the following topics according to the amount of time devoted to them in this course. In Column B, rank them in the order you would prefer.

	RANK (This Course)	RANK (My Preference)
(1) Nursing assessment, planning and evaluation	____	____
(2) Signs, symptoms and medical treatment of specific conditions	____	____
(3) How to give physical care and perform certain procedures	____	____
(4) How to meet the psycho-social needs of patients	____	____
(5) Other (please specify) _____	____	____

SECTION III

In each of the questions below, please place a check (✓) next to the appropriate option.

18. In clinical labs, patient assignments are made:

____ (1) by the students, with faculty approval
____ (2) by faculty
____ (3) by staff of the clinical unit
____ (4) other

19. In this course, what opportunities are available to those students who wish to pursue a special interest or who have the desire to do more than meet the minimum requirements of the course? (Check (✓) all options that apply.)

____ (1) An honors program based on certain requirements
____ (2) Optional seminars or other class sessions open to any class member
____ (3) Optional reading lists, projects, written papers
____ (4) Other (Please specify) _____

20. Does your current curriculum provide any of the following:

____ (1) A choice of nursing elective courses (please list) _____

____ (2) An independent study course in which the student sets his own objectives
____ (3) A choice of clinical lab settings for portions of regular courses
____ (4) Any course taken with medical students or allied health students (please list course title and number) _____

21. In this course, schedules and classroom topics: (Check (✓) all that apply.)

____ (1) are followed exactly as scheduled if at all possible
____ (2) are frequently changed unexpectedly without advance notification
____ (3) may be changed at the request of a majority of students
____ (4) can be adjusted to take advantage of unexpected learning opportunities

22. In nursing courses based on knowledge of physiology, micro, chemistry, psychology, or sociology which you have covered in non-nursing courses:

____ (1) the nursing instructor repeats the material in class
____ (2) the material is not repeated but the student is responsible for knowing it
____ (3) optional review materials or assignments are provided
____ (4) other (please specify) _____

23. In the nursing courses which you have taken in this program is there repetition of some types of content from course to course? ____ (1) yes ____ (2) no

If you answered the previous question "yes", what are the general categories of information which are repeated? _____

24. Evaluation of your clinical performance in this course is based on: (place a check in the box (✓) for all that apply.)

____ ☐ (1) written anecdotal notes kept by instructor
____ ☐ (2) general opinion of instructor without supporting documentation
____ ☐ (3) rating of achievement of a list of specific objectives
____ ☐ (4) graded patient care plan
____ ☐ (5) self-evaluation
____ ☐ (6) verbal reports to instructor from staff working in the area where you were assigned
____ ☐ (7) other (please specify) _____

In the previous question please rank the choices you made according to which factors you feel have the greatest weight in determining clinical evaluation. Rank only those factors you checked. Place the rank in the blank to the left of the box.

25. What grade do you expect to receive in this course? _____

26. What changes, if any, would you like to see made in your present curriculum?